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Klingel, Mark Jeffrey; Burge, Charlie Elzner

Monterey, California. Naval Postgraduate School

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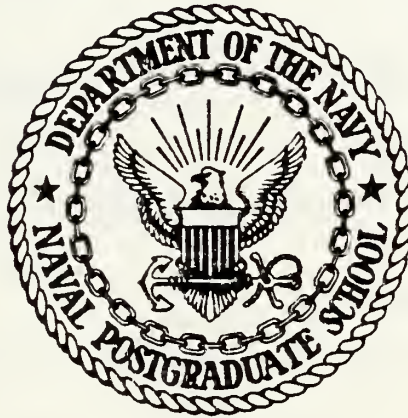
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NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

A COMPARISON: PROCUREMENT PRACTICES OF
GOVERNMENT-ORIENTED AND COMMERCIAL-ORIENTED
BUSINESSES

by

Mark Jeffrey Klingel
and
Charlie Elzner Burge

December 1983

Thesis Advisor:

D. Guyer

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While differences exist among the two groups, they share many similarities that are also presented in the study.

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A Comparison: Procurement Practices of
Government-Oriented and Commercial-Oriented
Businesses

by

Mark Jeffrey Klingel
Lieutenant, Supply Corps, United States Navy
B.S., Florida State University, 1975

and

Charlie Elzner Burge
Lieutenant, Supply Corps, United States Navy
B.B.A., Texas Christian University, 1974

Submitted in partial fulfillment of the
requirements for the degree of

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from the

NAVAL POSTGRADUATE SCHOOL
December 1983

ABSTRACT

This thesis examines differences in the procurement practices of Government-oriented businesses and commercial-oriented businesses.

A survey was conducted of various businesses within California, several questions were asked in the topic areas of long term contracting, subcontracting, source development and contract administration. The responses are stratified and compared in this baseline study.

While differences exist among the two groups, they share many similarities that are also presented in the study.

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I. INTRODUCTION

A. STATEMENT OF THE PROBLEM

This thesis compares the impact the Federal Government's procurement practices and procedures have on the procurement practices of private businesses. The thesis recognizes the existence of two industrial groups, the first which seeks to sell their supplies and services to the Federal Government and the second are those private businesses who choose not to enter the federal marketplace, but rather sell their supplies and services primarily to the private marketplace. The first group is identified as Government-oriented businesses while the second group is identified as commercial-oriented businesses. A survey questionnaire, with identical questions was sent to the two groups seeking their responses on a range of topical areas (See Appendix A). In addition, questions to stratify each company as to Government or commercial-orientation were asked. Based on the responses to the survey, the thesis isolates those significant differences in the procurement practices of the two, private, industrial groups.

Businesses in the private sector are often classified into two distinct categories: (i) those businesses that deal primarily with the Government and (ii) those businesses that deal primarily with the private, commercial sector.

Each of the two groups is often examined in some detail and each has remained essentially independent within the literature. While the existence of both groups is recognized, their interdependence with each other and the Government has not been specifically addressed. Both groups are first, and foremost, private or stockholder ventures, but for varying reasons one group remains primarily involved within the private sector and the second group deals primarily with the Government.

As any private business may be expected to do, both groups seek to develop and expand their respective markets, yet each shares other basic business goals best expressed by the following:

"There is a widespread impression that government purchasing is totally different from industrial purchasing. This impression is not altogether valid. Both government and industrial purchasing are concerned with buying the right quality, in the right quantity, at the right price and time, and from the right source." [1:541]

Even with these common attributes their attainment of these purchasing goals often times may not be arrived at in a common manner. Those private firms that do venture in the realm of Government purchasing (as contractors, or bidders on a Government contract) may be faced with what can best be expressed as insurmountable differences in the Government procurement field. The regulatory requirements and the Government's right to cost data are only two of many unique features that make the first time Government

contractor aware of just how different doing business with the Government may be. It has been noted that, "Defense contractors and subcontractors must realize that the free and easy business methods of the commercial market place are not possible where public funds are involved." [2:L-1-1].

Yet, commercial-oriented businesses may have their own preconceived ideas of what "freedom" means when they, in turn, look at their Government-oriented counterparts. It has been observed that unlike a Government purchasing agent, "the industrial buyer enjoys a far greater degree of freedom in choosing his suppliers than does his government counterpart." [3:567].

Though these views indicate that the commercial-oriented businesses do enjoy at least one advantage over Government-oriented businesses, there may yet be another advantage the commercial-oriented businesses enjoy. This advantage is best summarized by the Office of Federal Procurement Policy which noted that for Government procurement,

"The current Federal procurement "system" is not an integrated system, but rather a collection of statutes, policies and operations that are sometimes inconsistent, ineffective and uneconomical in satisfying agency mission needs in a timely manner." [4:6]

Regardless of the various views, the thesis seeks to determine if Government procurement practices have impacted the procurement perceptions and practices of those businesses that sell their supplies and services to the Federal Government. Of those businesses that do not deal primarily with

the Government, contractually, is there a difference in their independent procurement practices? Is there a significant difference between the procurement practices and perceptions of otherwise similar, private businesses?

Despite the apparent differences, the authors' research of the literature indicated that there are no direct answers to these questions. There is abundant literary evidence that indicates how Government-oriented businesses conduct procurements and how private businesses conduct, or should conduct, business with the Federal Government. There is, however, very little literature that discusses the similarities and differences of these two groups. The question then still exists as to what differences, if any, are there between the two groups? The hypothesis of this thesis is that the Government, through its legislative enactments and sovereign status, greatly influences contractual relationships to the point where there are significant differences in purchasing practices of Government-oriented and commercial-oriented businesses. Commercial-oriented purchasing, taken as a subject by itself, is addressed in a multitude of texts and articles as is the procurement practices and regulations of the Federal Government. Yet, the authors of this thesis, having reviewed the literature, have been unable to find references that address the differences between the Government and commercial-oriented businesses in their respective procurement practices. This thesis concentrates its research

in this segment of the market place. Although not directly tested, the inference is that a distinguishable difference exists between the two groups due to the direct influence of the government in the contractual sphere of the Government-oriented businesses.

B. RESEARCH OBJECTIVES

The thesis examined four topical areas to gain a general view of the two groups' diversified practices and perceptions. The four areas examined are:

1. Contract administration
2. Subcontracting
3. Source development
4. Long-term contracting

These four areas were chosen since they represent four of the purchasing functions associated with most businesses. The differences in performing these four functions, in turn, can provide an overview of the purchasing practices for each of the surveyed groups. Based on the responses to the survey, a general conclusion will be expressed on the overall differences, if any, in the procurement practices and perceptions of Government-oriented versus commercial-oriented businesses.

C. METHODOLOGY

The method used in gathering the data for this thesis was a survey questionnaire which consisted of a total of

fifty-one questions. The questionnaire was divided into six sections. The first section was used to segment the survey respondents into Government-oriented or commercial-oriented businesses. Chart 1 is a schematic presentation of how this segmentation was accomplished.

Sections two, three, four and five seek answers to selected questions in the areas of long-term contracting, source development, subcontracting and contract administration, respectively. These questions were designed to elicit the views, opinions and practices from each of the respondents. Section six of the questionnaire seeks each firm's ranking of evaluation criteria for vendor selection within each respective company.

The Wilcoxon-Mann-Whitney test was used to test whether two independent samples (Government-oriented and commercial-oriented businesses) are drawn from two universes having the same mean. The test is a nonparametric test and thus avoids the assumptions that must be made in a parametric test. Unlike parametric models where the type and form of a population distribution is known, random samples are used to collect data, the Wilcoxon-Mann-Whitney test merely ranks two independent samples and tests the two means [5]. The test was used to compare the two samples and determine if their respective means differed from one another. This test is designed herein to support the hypothesis that,

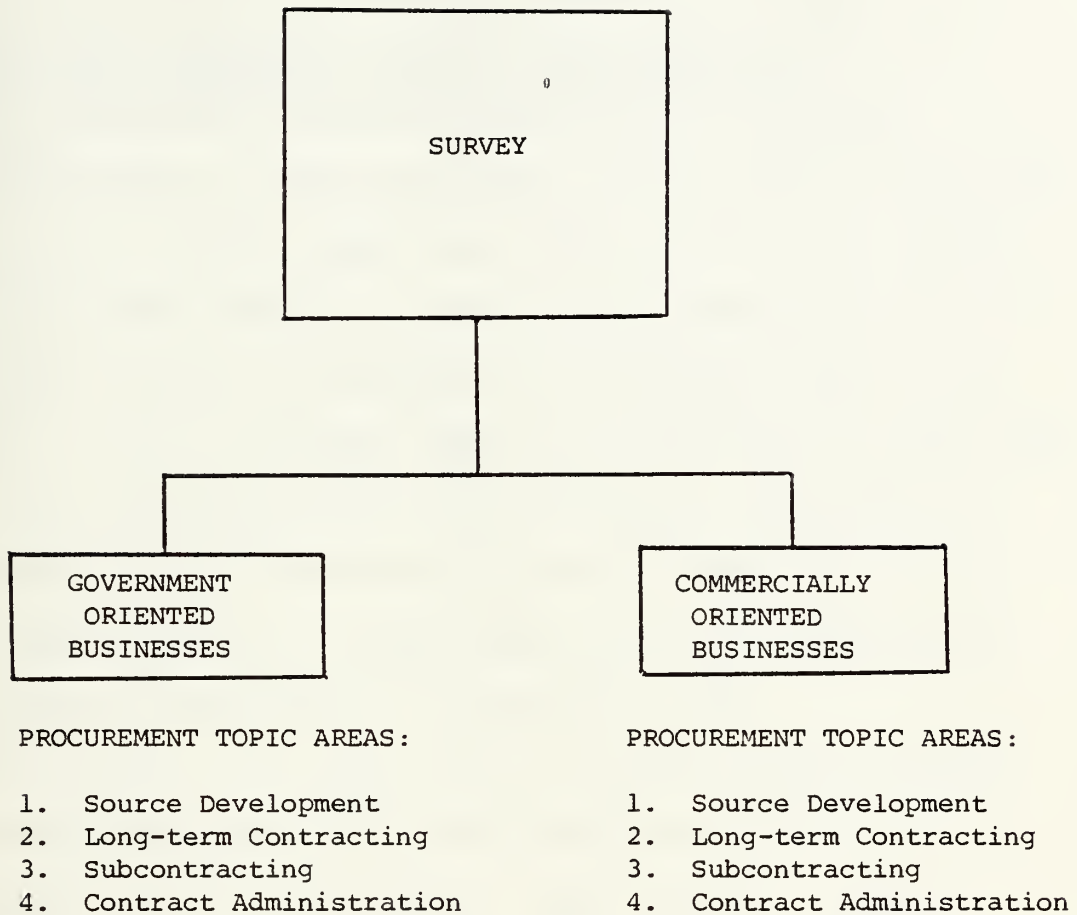


Chart 1: SURVEY BREAKDOWN

The mean response for each survey question for both the government-oriented businesses and the commercial-oriented businesses are equal,

by rejecting the alternative hypothesis, that

The mean response for each survey question for both the government-oriented businesses and the commercial-oriented businesses are not equal.

Essentially, if the statistical tests indicate that the responses to a given, identical question have equal sample means, then that indicates that the Government and commercial-oriented businesses share similar views. Conversely, if the two sample means are statistically different, this is an indication that both Government and commercial businesses view the particular question differently. The means then would give an approximation of the opinions of each group as expressed in a percentage form.

For example, the topic area of contract administration is a subdivision under both the Government-oriented and commercial-oriented businesses. Each subdivision had a sample mean calculated for it. These two sample means were then compared to see if a significant statistical difference in the views, opinions or procurement practices of the two groups exists. It was determined that a preliminary Student t-Test at the 80 percent confidence level would be used to initially identify significant differences. A significant difference would be verified using a Wilcoxon-Mann-Whitney test at the 90 percent confidence level. The Wilcoxon-Mann-Whitney test was determined to be the definitive test.

The questionnaire was mailed to selected businesses within California to permit those surveyed sufficient time to carefully consider the questions before answering them. This additional response time provided added confidence when using the survey answers for further analysis. A copy of the survey is included as Appendix A.

D. RESEARCH QUESTIONS

Given the research objectives previously stated, the following research questions to be answered are:

1. Is there a significant difference between government-oriented contractors and commercial-oriented contractors in how they select new suppliers and subcontractors?
2. Do commercial-oriented businesses prefer long term contracts (two or more years) more than government-oriented businesses?
3. Is there a significant difference between government and commercial-oriented businesses in how they practice or perceive their contract administration function?
4. Does a significant difference exist between government and commercially-oriented businesses in how they practice or perceive their subcontracting function?

II. LONG TERM CONTRACTING

A. BACKGROUND

In both the commercial and Government-oriented sectors of the economy the development and production of major products may continue over a period of many years. One of the more important planning requirements for the organization is the decision to enter into long-term contracts with suppliers and subcontractors. Since long-term contracting plays a key role in efficient procurement planning, the survey questionnaire (Appendix A) sought information on how each of the private sector businesses used it in their respective areas. The general premise of this chapter is to determine whether or not Government-oriented businesses prefer long term contracting over their peers, the commercial-oriented businesses.

Because the Government-oriented businesses receive their funding through Congressional appropriations which have historically been on an annual basis, the proponents for long term contracting have stated that such annual funding with its resultant short term contracts is less than efficient. If conversely, long term funding were appropriated early in a program's life cycle, monetary efficiencies may result. The realization of exactly how effective the resultant long term contracting may be is best summarized by the following:

"...Either competitive or noncompetitive multiyear contracting should lead to productivity increases, improvements in economic order quantities, and elimination of inefficient program starts and stops."
[6:23]

This statement was again supported by Dr. Richard De Lauer, Under Secretary of Defense (RUE), when he presented testimony to Congress on the progress being made by the Department of Defense using multiyear funding for specific acquisitions. Dr. De Lauer supported the advantages of long term contracting and added that additional benefits could be achieved with its use. These included such things as improved planning, increased productivity and other nonquantifiable benefits. These benefits include increased program stability which allows the contractor to invest his own capital in order to increase productivity. [7:A-23]

With the theoretical success that long term contracting offers, the survey sought Government-oriented and commercial-oriented businesses' views and practices on this subject. The findings are presented below.

B. SIGNIFICANT DIFFERENCES

The survey contained twelve questions in the topic area of long term contracting (see Appendix A). Of these questions, four were found to have statistically different responses. That is, the Government-oriented and commercial-oriented businesses took different positions on otherwise similar questions. The questions where significant differences

were found are questions numbered 3, 7, 8 and 11 (see Appendix C).

1. Short Term Contracts and Emerging Technology

The results of the survey show that the commercial-oriented businesses agree by a 60.5 percent (23.3% Strongly Agree plus 37.2% Agree) to 25.5% (20.9% Disagree plus 4.6% Strongly Disagree) majority, that those products influenced by a changing technology base should be procured with short-term (one year or less) contracts. The Government-oriented business tended to be evenly divided, with 45.5 percent agreeing and 40.9 percent disagreeing over this question. Table 1 shows that the Government-oriented businesses are divided over the question while the commercial-oriented businesses take a much stronger position: positively preferring short-term, defined in the survey as one year or less, contracts to take advantage of emerging technology.

This difference suggests there may be a relationship between technology and contract length preferences. The survey results suggest that the Government-oriented businesses are, at best, indifferent to the use of short-term contracts in order to take advantage of emerging technology. The commercial-oriented businesses tend to prefer short term contracts. This is especially evident in the high technology companies where new products and production processes tend to improve steadily. One possibility why Government-oriented businesses prefer long term contracts is the extensive

TABLE 1

TOPIC AREA: Long Term Contracting

QUESTION: For those products with rapidly changing technology we prefer short-term (one year or less) contracts to take advantage of emerging technology.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	9.1%	23.3%
Agree	36.4%	37.2%
No Opinion	13.6%	14.0%
Disagree	36.4%	20.9%
Strongly Disagree	4.5%	4.6%
TOTAL	100.0%	100.0%

testing and qualification requirements for new suppliers mandated by Government procurement regulations. Therefore, this technology issue, linked to contract duration in the survey, tend to support the findings of at least one author who noted that

"These large firms (government-oriented) emphasize risk minimization, and thus tend not to push new ideas or applications. Research is more likely to be done increasing the performance of a device, rather than on developing some totally new device."
[8:101].

2. Single Year Contracts and Increased Competition

As the previous discussion indicated a preference for the commercial-oriented businesses to favor short term contracts to take advantage of emerging technology, the same group showed a stronger preference than their Government-oriented peers for using short-term contracts to take advantage of increased competition. With the increased competition, commercial-oriented businesses indicated that lower prices are the result of increased competition in a rapidly changing technological industry. (See Table 2). The commercial-oriented businesses, in a technological environment, must be attuned to the rapidly changing technology to remain competitive. This alone is not sufficient, however, for the commercial-oriented businesses must not merely remain competitive in their respective industries' technology, but they must also be able to provide their services at lower prices. Clearly, both the technological aspect and the price competitiveness are an integral function of the commercial-oriented businesses.

As Table 2 shows, fifty percent of the Government-oriented businesses disagree while 25.6 percent of the commercial-oriented businesses disagree over the use of short term contracts to increase competition and thus receive lower prices for the procured items. Table 2 shows that the Government-oriented businesses, to a large extent disagree with their commercial-oriented peers on this issue. This

TABLE 2

TOPIC AREA: Long Term Contracting

QUESTION: In a rapidly changing technological industry we prefer single year contracts to take advantage of increased competition and lower prices.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	15.0%	27.9%
Agree	10.0%	30.3%
No Opinion	25.0%	16.2%
Disagree	35.0%	18.6%
Strongly Disagree	15.0%	7.0%
TOTAL	100.0%	100.0%

informative disclosure might indicate competitiveness and is not perceived to vary directly with contract length in the Government-oriented acquisition process.

3. Single Year Versus Long Term Contracts and Final Cost

When the questionnaire asked both groups' opinion on their ability to pass any cost savings on to their customers based on the availability of sufficient funds at the start of the contract, significant differences were found to exist between the Government-oriented and commercial-

oriented businesses' responses. Given the choice between the use of long term (two or more years) funding or single year funding, the questionnaire found that while one group would, or could, pass through cost savings, the other group felt that such savings would not be realized and, therefore, would not be passed on.

Only 15.8 percent of the Government-oriented businesses agree that the length of the contract will determine the final ability to pass through savings to their customers. Whereas 47.4 percent disagreed and a significant 36.8 percent had "no opinion". Conversely, the commercial-oriented businesses responded with a 46.2 percent "agreed" and 28.2 percent "disagreed" indicates contract length has little influence on what cost savings may be passed along to the customer by Government-oriented businesses. Again, the 36.8 percent and 25.6 percent "no opinion" responses by the Government-oriented and commercial-oriented businesses, respectively, are significant. These responses may mean that the companies had no idea whether or not savings would occur or whether or not the savings would be passed onto the customer even if there were some. Table 3 summarizes the findings of the survey.

The survey did not further attempt to define the specific reason that these differences existed. There are some sources that might explain why such differences exist. For example, Major General J.H. Connolly, Deputy Director

TABLE 3

TOPIC AREA: Long Term Contracting

QUESTION: Whether funding is single year or long term (two or more years) makes relatively little difference on the total pass through savings, because the effect of our firm meeting future delivery schedules will, as a matter of course, be funded in the final analysis.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	5.3%	18.0%
Agree	10.5%	28.2%
No Opinion	36.8%	25.6%
Disagree	31.6%	23.1%
Strongly Disagree	15.8%	5.1%
TOTAL	100.0%	100.0%

(Acquisition Management) Defense Logistics Agency has observed that:

"Unfortunately, defense contractors may not have the same incentives to invest their capital resources as do their associates in the commercial markets. Commercial markets are driven to a large extent by true price competition (lower total costs often determine sales). Therefore, investment is made in equipment which will increase productivity (lower total costs). Most major DOD programs are not driven primarily by lower costs. Although cost is a factor, elements such as delivery schedule, reliability, maintainability, technical performance and others often are the primary decision factors. Therefore, defense contractors often rely most heavily on their engineering and technical assets to win government contracts. The incentive to invest in labor-saving production facilities is often relegated to a low priority."

[9:17]

Though DOD contractors are addressed, the survey would indicate that Government-oriented businesses in general are less concerned with or less able to pass through savings and may, in part, support General Connolly's findings.

4. Preference for Long Term Versus Short Term Contracts

When the survey sought each groups' preference over long term contracts (long term being defined as two or more years) versus single year contracts, the Government-oriented businesses responded overwhelmingly in favor of using long term contracts. As Table 4 shows, the Government-oriented businesses preferred long term contracts by a 72.8 percent versus 22.7 percent "disagree" over single year contracts, while the commercial-oriented businesses were evenly divided with 43.9 percent for and against the use of long term contracts.

This question was placed in the survey such that it was answered first, well before the other questions discussed in sections 1, 2 and 3 above, were answered. This was done to minimize association with those questions that tied length of contract to other parameters; such as the technology issue. The Government-oriented businesses' preference for longer length contracts seems to be supported by the very nature of the environment in which they work.

"The typical weapon system contract is awarded to a company that is chosen as the result of a lengthy series of negotiations and that then enters into an extended cost-reimbursement type of contractual relationship. In

TABLE 4

TOPIC AREA: Long Term Contracting

QUESTION: We prefer long term (two or more years) contracts over single year contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	45.5%	19.5%
Agree	27.3%	24.4%
No Opinion	4.5%	12.2%
Disagree	9.1%	24.4%
Strongly Disagree	13.6%	19.5%
TOTAL	100.0%	100.0%

contrast, the typical civilian agency order is given at a fixed price to the company that has offered the lowest sealed bid." [10:47]

The Government-oriented businesses then may be concerned with maintaining their relationship with the Federal Government as dedicated suppliers. In such an environment they are not subject to the rigors of the commercial market place in terms of shorter, although more frequent, contracts for their supplies and services.

C. SIMILARITIES

In the topic area of long term contracting questions 1, 2, 4, 5, 6, 9, 10 and 12 of Appendix A were not found to

have significantly different means. That is, the Government-oriented businesses and the commercial-oriented businesses shared the same practices and opinions on these questions. Two of the questions are addressed since they have some impact on the findings in the above section, Significant Differences. All response findings are contained in Appendix C.

1. Long Term Contracts and Better Prices

This question asked both the Government and commercial-oriented businesses to address contract length in relation to price breaks they might or do receive from their suppliers provided that they offer the supplier a long term (defined to be two or more years) contract. Table 5 shows that 57.9 percent agree, while 42.1 percent disagree, that the Government-oriented businesses felt that suppliers would provide better prices with long term contracts (two or more years). Likewise, commercial-oriented businesses by a 61.0 percent to 26.8 percent majority felt they would get better prices from their suppliers using long term contracting.

This finding, the ability to gain some form of price concession from the suppliers, appears to be directly opposed to the Government-oriented businesses' previous response to the pass through savings question posed earlier in this chapter (see Table 3). Most notable, the Government-oriented contractor, while responding positively to his ability to gain some cost savings from his suppliers with long term

TABLE 5

TOPIC AREA: Long Term Contracting

QUESTION: We could get better prices from our suppliers with long term (two or more years) contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	31.6%	26.9%
Agree	26.3%	34.1%
No Opinion	0.0%	12.2%
Disagree	26.3%	14.6%
Strongly Disagree	15.8%	12.2%
TOTAL	100.0%	100.0%

contracts, raises a conflicting issue here. Regardless of the length of the contract that a Government-oriented business has with a Federal agency, he may not be able to realize any pass through savings for the Federal agency (see Table 3) yet the same Government-oriented contractor states that he can gain some savings with his suppliers by offering them long term contracts (see Table 5). The commercial-oriented businesses seem to have responded to this question predictably; where cost savings are made, they are then passed through to their customers.

2. Cost Savings Using Long Term Contracts

Table 6 indicates that without long term contracts the Government-oriented businesses felt, by a 63.2 percent to 15.8 percent majority, they may not pass on cost savings because of the unavailability of long term funding. The commercial-oriented businesses agreed by a 43.3 percent to a 23.3 percent majority as Table 6 indicates. However, a large portion (32.4 percent) of the commercial-oriented businesses had no opinion on the matter. This tends to support the large "no opinion" responses found earlier in question eleven (see Table 3) which asked about pass through savings.

The question was designed to gain some appreciation of what the Federal Government has termed, multiyear procurement. While multiyear procurement is not new, its recent emphasis as a cost savings device has received new attention by both the Congress and various authors (10) with less than favorable results. The survey statistically shows both Government and commercial-oriented businesses are not overwhelmingly supportive of the benefits of long term funding (multiyear funding). The Congress has also questioned the real advantage of multiyear procurement. The Appropriations Committee, in reference to the Department of Defense efforts in multiyear procurement noted:

"In justifying multiyear procurement last year, the Department (DOD) repeatedly suggested that savings in the range of 10 percent to 20 percent would be

TABLE 6

TOPIC AREA: Long Term Contracting

QUESTION: The lack of long term (two or more years) funding for contracts on a potentially long term (two or more years) delivery product does not allow us to pass on cost savings that would be associated with long term (two or more years) funding.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	15.8%	10.8%
Agree	47.4%	32.5%
No Opinion	21.0%	32.4%
Disagree	5.3%	18.9%
Strongly Disagree	10.5%	5.4%
TOTAL	100.0%	100.0%

obtained through multiyear contracting. Most of the fiscal year 1983 candidates fell well below a 10 percent savings even when escalation avoidance was considered part of the savings." [12:98]

It remains to be seen if multiyear procurement will realize the cost savings its proponents say it will. The survey results indicate that both private industry groups are noncommittal on its use to save procurement costs.

3. Benefits of Long Term Contracts

Questions one and two asked whether long term contracts allows better capital resource planning for material

and better utilization of manpower that could result in learning curve and related productivity savings. With majorities of 72.8 percent and 81.8 percent (see Tables 7 and 8), the Government-oriented businesses agree with these statements. Likewise the commercial-oriented businesses concur with these findings by 58.1 percent and 60.5 percent majorities (see Tables 7 and 8).

Other benefits which can accrue and are substantiated by large margins involve discounts received for buying bulk quantities and the willingness of both the Government-oriented and commercial-oriented businesses to stockpile those materials. However, where the Government-oriented businesses are willing to stockpile material (by a 59.1 percent to 36.4 percent majority (see Table 9) the commercial-oriented businesses agree by only a 48.7 percent to 38.5 percent majority. The major difference is the 12.8 percent "no opinion" given by the commercial-oriented businesses versus the 4.5 percent "no opinion" response by the Government-oriented businesses to the same survey question.

4. Fixed Price Long Term Contracts

Fixed price contracts are addressed in questions five and nine. Government-oriented businesses and commercial-oriented businesses agree by margins of 61.1 percent and 52.4 percent, respectively, to a preference for fixed price, long term contracts with economic escalator clauses to single year cost reimbursable contracts (see Table 10). However,

TABLE 7

TOPIC AREA: Long Term Contracting

QUESTION: Long term (two or more years) contracts allow better capital resource planning for material.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	36.4%	18.6%
Agree	36.4%	39.5%
No Opinion	4.5%	9.3%
Disagree	13.6%	20.9%
Strongly Disagree	9.1%	11.7%
TOTAL	100.0%	100.0%

when the economic escalator clause is removed and question nine asks whether the company prefers fixed price, long term contracts to single year, cost reimbursable contracts, a different outcome occurs (see Table 11). The responses from the Government-oriented businesses agree with question five's statement by a 57.1 percent to 38.1 percent majority (see Table 11). This is nearly identical to the percentage responses to question (Table 10). Whereas, in the commercial-oriented businesses 13.4 percent of the respondents reporting to the affirmative in question five, changed their opinions from the affirmative to "no opinion".

TABLE 8

TOPIC AREA: Long Term Contracting

QUESTION: Long term contracts allow better utilization of man-power that could result in learning curve and related productivity savings.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	50.0%	18.6%
Agree	31.8%	41.9%
No Opinion	4.6%	9.3%
Disagree	4.6%	18.6%
Strongly Disagree	9.0%	11.6%
TOTAL	100.0%	100.0%

This change by the commercial-oriented businesses may be attributed to the uncertainty of inflation. The risk of a fixed price contract is minimized by the economic escalator clause and risk is therefore considered the major reason for the shift in the responses between questions nine and five (Tables 10 and 11).

D. SUMMARY

In general both sectors of the private businesses share similar views on the benefits of long term contracting. They share very different views, however, on the benefits of long term contracting when it is applied to products

TABLE 9

TOPIC AREA: Long Term Contracting

QUESTION: With long term (two or more years) contracts we are willing to buy larger quantities of raw materials. (stockpile).

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	22.7%	20.5%
Agree	36.4%	28.2%
No Opinion	4.5%	12.8%
Disagree	27.3%	25.6%
Strongly Disagree	9.1%	12.9%
TOTAL	100.0%	100.0%

within a technology oriented business environment.

Government-oriented businesses do not contend that in a technology influenced environment the length of the contract is of importance. The commercial-oriented businesses, however, clearly prefer short term (defined to be one year or less) contracts in the same technology-oriented environment.

The Government-oriented businesses appear to be inconsistent on the issue of cost savings. While they agree that savings are possible through better manpower utilization, resource management and funding in longer contracts. Cost

TABLE 10

TOPIC AREA: Long Term Contracting

QUESTION: Fixed price long term (two or more years) contracts with economic escalator is preferable by suppliers to single year cost plus contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	11.1%	11.9%
Agree	50.0%	40.5%
No Opinion	0.0%	9.5%
Disagree	27.8%	26.2%
Strongly Disagree	11.1%	11.9%
TOTAL	100.0%	100.0%

savings gained from subcontractors may not be, at the end of a program, passed through to their customer, the Federal agencies. This inconsistency of application and use of long term contracts raises the issue that if cost savings are gained in one part of the contract, and contract concessions are gained from suppliers and subcontractors, why are the savings not then passed onto the final customer of the Government-oriented businesses?

TABLE 11

TOPIC AREA: Long Term Contracting

QUESTION: We prefer fixed price long term (two or more years) contracts to single year cost reimburseable type contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	23.8%	12.2%
Agree	33.3%	26.8%
No Opinion	4.8%	21.9%
Disagree	23.8%	17.1%
Strongly Disagree	14.3%	22.0%
TOTAL	100.0%	100.0%

III. SUBCONTRACTING

A. BACKGROUND

Subcontracting plays a large and important role in the business environment, because as technology has advanced, many prime contractors may no longer possess all the pre-requisite skills, plant and equipment needed to develop complex systems. Subcontractors, through specialization in design, manufacturing or technical skills, have provided their services to prime contractors where these specialized services might be needed. Subcontracting is then used to acquire the needed supplies and services that will be integrated into the prime contractor's final product. The numerous combinations of subcontractors' supplies and services span the spectrum from preservation and packaging to major subcomponents of the prime contractor's final product.

Subcontracting, therefore, has a very significant impact on the acquisition process. The amount of capital investment avoided by the use of subcontracting differs from industry to industry. For example, in the defense industry 40 to 70 percent of the total business is subcontracted [13]. The magnitude of subcontracts in the acquisition process of other industries is equally significant, for example, "in the automobile industry subcontracting is in the 50 to 60 percent

range and in the food business subcontracting is in the 80 percent range" [8:43].

Congress has recognized that small businesses are a vital part of the economy and have passed legislation to ensure that these businesses receive special consideration in the Federal procurement process. Legislative enactments such as the small Business Act (P.L. 85-536) and the amendments to the Small Business Act (P.L. 95-507) have essentially required that Federal agencies provide a plan to ensure small and disadvantaged businesses can take part in the agency's contracts, to the maximum extent possible [14].

Government-oriented businesses then are required to develop and implement subcontracting plans that afford the small businesses ample opportunity to participate as a player in Government funded procurements. Recognizing the importance of subcontracting, in general, to a business's eventual success and also recognizing the Congressional mandate to bring small businesses into the acquisition process, the thesis attempts to determine what difference, if any, exists in the subcontracting practices between Government-oriented and commercial-oriented businesses with their experiences with small business subcontractors. The survey findings are presented below.

B. SIGNIFICANT DIFFERENCES

There were three questions in this area where the two groups' views and practices have significant differences.

Questions where significant differences were found are questions 1, 2, 6 and 7 of the topic area subcontracting (see Appendix D for the survey results).

1. Small Businesses Sought as Subcontractors

Given the emphasis of Federal agencies to ensure that small businesses are given ample opportunity to participate in Federally funded acquisitions, the survey asked both private sector businesses the extent to which they actively sought small businesses participation as subcontractors in their subcontracts. Table 12 shows a large disparity between the Government-oriented businesses and commercial-oriented businesses' responses.

While a 47.7 percent to 36.4 percent majority of the commercial-oriented businesses actively sought small businesses as subcontractors, this paled considerably when compared to the Government-oriented businesses' response for the same question. This is dramatically shown by the 82.7 percent to 8.6 percent majority of Government-oriented businesses which actively sought small businesses as subcontractors. Government-oriented businesses would seem to be clearly complying with the intent of Congressional legislation efforts to ensure small businesses are used in the acquisition process. However, commercial-oriented businesses, though not mandated to use small businesses, do show a surprising emphasis with the 47.7 percent which actively seek small businesses for subcontractors.

TABLE 12

TOPIC AREA: Subcontracting

QUESTION: We actively seek small business firms as primary subcontractors.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	30.4%	13.6%
Agree	52.2%	34.1%
No Opinion	8.7%	15.9%
Disagree	4.4%	34.1%
Strongly Disagree	4.3%	2.3%
TOTAL	100.0%	100.0%

The significant difference between the Government-oriented businesses and commercial-oriented businesses' responses may reflect only the impact legislative actions have on the Federal procurement process at the subcontractor level. Where legislative requirements are not as prevalent in requiring the use of small businesses in the commercial-oriented business sector, the survey might indicate to what extent small businesses would be solicited in the Government-oriented business sector if there were no Congressionally mandated requirements. There could be other reasons why commercial-oriented businesses do not participate as actively

in the small business programs as Government-oriented businesses do. Some companies prefer to do business with local companies to show commitment to their local communities; others go for low price and seek new subcontractors but not to support small businesses, but to increase competition. This area will be further explored in the Source Development chapter.

2. Higher Priced Small Businesses and Contract Type

With Government-oriented businesses' legislative use of small businesses in their acquisition process, the respondents were asked their opinion concerning the use of "higher priced" small businesses on cost reimbursable contracts. The question sought to gain a degree of understanding of what costs Government-oriented businesses would incur and then pass onto the Federal Government under cost type contracts. As Table 13 shows, 80.9 percent of Government-oriented businesses stated that they did not use higher priced small businesses in cost reimbursement contracts.

Unexpectedly, the commercial-oriented businesses differed in their response to the same question. While 43.6 percent did not agree with the survey's statement, an equal number, 43.6 percent, had no opinion on the matter. The commercial-oriented businesses' 43.6 percent "no opinion" response left the question more unanswered than would have been expected. However, Government-oriented businesses tend to emphasize this last possibility. By their 80.9 percent

TABLE 13

TOPIC AREA: Subcontracting

QUESTION: We seek higher priced small business designated companies mainly on cost reimburseable verses fixed price contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	0.0%	0.0%
Agree	4.8%	12.8%
No Opinion	14.3%	43.6%
Disagree	38.1%	30.8%
Strongly Disagree	42.8%	12.8%
TOTAL	100.0%	100.0%

response which overwhelmingly supports this principle, Government-oriented businesses do not seek higher priced small businesses in cost-reimbursable vice fixed price contracts.

3. Small Businesses Actively Seek Contracts

Given that the Federal Government has required the use of small businesses in Government acquisitions, where possible, and given that the Government-oriented businesses do actively seek small businesses as subcontractors (see Table 12), the survey then tried to determine the extent to which small businesses themselves actively sought contracts from Government-oriented and commercial-oriented businesses.

Although Congressional requirements direct Government-oriented contractors, where practical, to use small businesses, the respondents were asked the extent to which a legally designated small business might use their unique status to solicit subcontracts from the primes. As can be inferred from Table 14, 47.6 percent of the Government-oriented businesses agreed that small businesses do seek subcontracts while disclosing their small business status. Contrasting with this is the commercial-oriented businesses' response, where 57.5 percent of the commercial-oriented businesses stated that small businesses do not seek subcontracts by identifying themselves as small business designated firms. One factor which is curious is that 23.8 percent of the Government-oriented businesses and 32.5 percent of the commercial-oriented businesses gave a "no opinion" response. Fifty-two and a half percent of those companies responding "no opinion" were either small or medium size companies by sales, which did not legally designate themselves as either a small or minority business. This may mean they do not know if they are eligible to be designated as a small business and can use this in their marketing strategy.

While the responses might not be overly surprising, it nevertheless is curious to note that from the Government-oriented businesses' perspective, small businesses do not attempt to actively solicit subcontracts using their legally designated small business status as a leverage to gain

TABLE 14

TOPIC AREA: Subcontracting

QUESTION: SBA companies always identify themselves as SBA companies in solicitations and actively seek contracts from us.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	7.5%
Agree	42.8%	2.5%
No Opinion	23.8%	32.5%
Disagree	23.8%	45.0%
Strongly Disagree	4.8%	12.5%
TOTAL	100.0%	100.0%

subcontracts. Of equal interest is the extent to which small businesses, as suppliers to both Government-oriented businesses and commercial-oriented businesses, may use their designated small business status in the Government-oriented subcontractor selection process and may not use the same "advantage" in the commercial-oriented subcontractor selection process.

4. Financing Research and Development

Another area of disagreement is found in question number 7 (see Table 15), concerning the funding of research and development costs. By a 50.0 percent (13.6% Strongly

TABLE 15

TOPIC AREA: Subcontracting

QUESTION: In procurements where research and development may be required prior to actual production, the individual contractor finances most of the development cost with his own funds.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	9.1%	10.0%
Agree	27.3%	35.0%
No Opinion	13.6%	30.0%
Disagree	36.4%	20.0%
Strongly Disagree	13.6%	5.0%
TOTAL	100.0%	100.0%

Disagree plus 36.4% Disagree) to 36.4 percent (27.3% Agree plus 9.1% Strongly Agree) majority, Government-oriented businesses responded that they do not finance research and development costs which may be incurred prior to production. This may be attributed to the fact that the Government finances most of their research and development. Whereas, by a 45.0 percent to 25.0 percent majority, commercial-oriented businesses do agree with the statement that they provide the funding for research and development prior to actual production.

However, 13.6 percent of the Government-oriented businesses and 30.0 percent of the commercial-oriented businesses submitted a "no opinion" response. This might have been attributed to the fact that some of those businesses, both Government-oriented and commercial-oriented businesses, are basic suppliers or subcontractors which provide standard products. These products may not necessarily require additional research and development prior to actual production.

C. SIMILARITIES

Of the eight questions in the Subcontracting topic area, four of the questions showed no statistical differences in the respondents' answers. The questions where both Government-oriented businesses and commercial-oriented businesses share similar perceptions and practices are 3, 4, 5 and 8 (see Appendix C).

1. Small Businesses are Dependable Subcontractors

Both the Government-oriented businesses and the commercial-oriented businesses in their day-to-day contractual dealings with small businesses have formed, quite naturally, some overall opinions of these small firms. The survey asked for both groups' views on small businesses as being essentially dependable subcontractors and suppliers. Both the Government-oriented businesses, by an 87.0 percent to a 13.0 percent majority, and the commercial-oriented businesses, by a 65.9 percent to 18.2 percent majority,

agreed that in their professional dealings with small businesses, as subcontractors, they are indeed dependable members of the acquisition process. Table 16 shows both the private business sectors agreeing with the survey's statement.

"While the industrial buyer enjoys a far greater freedom in choosing his suppliers than does his Government counterpart" [1:567], the small business firm has proven to be a reliable subcontractor for both the "industrial" and "Government" buyer. Even with legislative requirements for Government-oriented businesses to employ small businesses, both private sector groups have positively acknowledged small businesses may not be just a socio-economic requirement, but a dependable supplier as well.

2. Small Business Administration Designated Firms

The impact of the Small Business Administration is questioned by many of the respondents. By majorities of 66.7 percent and 48.6 percent, Government-oriented businesses and commercial-oriented businesses, respectively, disagree with the statement that fewer than 20 percent of their subcontractors/suppliers are designated by the SBA as a small business (see Table 17). However, 25.7 percent of the commercial-oriented businesses gave a "no opinion" response. This seems to support the difference on question six (see Table 14) which asked if SBA companies identified themselves while seeking subcontracts.

TABLE 16

TOPIC AREA: Subcontracting

QUESTION: In our dealings with small businesses, they have proven to be dependable subcontractors/suppliers.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	26.1%	15.9%
Agree	60.9%	50.0%
No Opinion	0.0%	15.9%
Disagree	8.7%	13.6%
Strongly Disagree	4.3%	4.6%
TOTAL	100.0%	100.0%

Further keeping with this line of reasoning, question five (Table 18) asked the respondents if the Small Business Administration has provided additional help in establishing new business relationships with other contractors or suppliers. Both groups disagreed that the SBA has offered this service. Both the commercial-oriented businesses and the Government-oriented businesses, by majorities of 55.3 percent and 47.6 percent, respectively, apparently do not feel that the Small Business Administration is helping companies in improving contacts with small businesses.

TABLE 17

TOPIC AREA: Subcontracting

QUESTION: Fewer than 20% of our subcontractors/suppliers are designated by the SBA as a small business.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	11.1%	8.6%
Agree	22.2%	17.1%
No Opinion	0.0%	25.7%
Disagree	38.9%	31.5%
Strongly Disagree	27.8%	17.1%
TOTAL	100.0%	100.0%

3. Changes in Specifications, Problems

Government-oriented businesses and commercial-oriented businesses, by majorities of 69.5 percent and 58.1 percent respectively, believe that frequent changes in specifications is a major problem in the life of the contract (see Table 19). However, a similar question asked in the Contract Administration chapter provided a different response than those given to this question. This difference will be addressed in the overall summary and conclusions between Government-oriented businesses and commercial-oriented businesses.

TABLE 18

TOPIC AREA: Subcontracting

QUESTION: The SBA has provided additional help to us in establishing new business relationships with other contractors/suppliers.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	10.5%
Agree	28.6%	5.3%
No Opinion	19.0%	28.9%
Disagree	38.1%	39.5%
Strongly Disagree	9.5%	15.8%
TOTAL	100.0%	100.0%

D. SUMMARY

The survey made it clear that Government-oriented businesses sought small businesses as subcontractors. This may be due, in no small part, to the legislative efforts to let small businesses become more active in Federally funded acquisition programs. On the other hand, commercial-oriented businesses while they actively seek small businesses as subcontractors, their compulsion to do so is not as prevalent as in the Government-oriented business community.

The survey also indicated that small businesses use their SBA status to gain subcontracts from Government-oriented

TABLE 19

TOPIC AREA: Subcontracting

QUESTION: Frequent changes in specifications is a major problem during the life of a contract.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	30.4%	25.6%
Agree	39.1%	32.5%
No Opinion	8.7%	18.6%
Disagree	17.4%	14.0%
Strongly Disagree	4.4%	9.3%
TOTAL	100.0%	100.0%

businesses. If SBA status can be thought of as a leverage for small businesses in the Government-oriented sector, that leverage used in the commercial-oriented businesses' environment appears not to come into play when small businesses compete for subcontracts in this portion of the private sector for business.

In any case, both the Government-oriented businesses and the commercial-oriented businesses agree, very strongly, that small businesses are proven, dependable subcontractors. This contrasts with some author's views which conclude that

"While the long-term benefits to society may be worthwhile, in the short term the government buyer may have to use a mix of vendors that meets the public's social demands but results in higher prices paid for items received...To meet that goal a much greater amount of administrative time may be required to find and qualify vendors, and some purchases may be made from vendors which will not give maximum value for the purchase dollar. In the long run, this may be desirable to meet societal goals; in the short run, it's less than optimum purchasing." [3:478]

Another factor which may dispel the above question is that the Maybank Amendment to the Defense Appropriations Bill which forbids paying a premium to small businesses.

The effect on prices of the services of the small businesses were not directly addressed in the survey, but the dependability of these firms ranked very high by both the Government and commercial-oriented businesses. This would indicate small businesses are not the burden as the above statement on the contracting process indicates.

It must be understood that while subcontracting is separated from source development in this study, they are both interrelated.

IV. SOURCE DEVELOPMENT

A. BACKGROUND

Source development is really nothing more than finding new or additional suppliers or subcontractors to fill new or existing material requirements. This function of the Purchasing organization is ongoing and in many cases considered part of subcontracting rather than a separate subject.

Actually, source development is divided into two parts:

1. Finding new suppliers or subcontractors to provide new or existing material requirements.
2. Help existing suppliers or subcontractors increase their product line or ability to provide either current products or substitutes required by the purchasing activity.

Both situations may reduce prices through increased competition or provide the purchasing activity protection from a sole-source supplier. The process of source development can be as simple as looking in the "Yellow Pages" of the phone book to as sophisticated as having a full time Small and Minority Business division within your purchasing organization. Regardless of the method used, source development is a necessary function for every purchasing activity.

Another way to state this is:

"Sourcing is a broader definition of procurement in that it encompasses the company's strategy or policy with regard to the make-or-buy options." [13:XVI]

In order to establish new sources of supply, every purchasing organization must have some criteria to evaluate each prospective subcontractor or supplier. For this reason, the section of the survey which contains the "Contractor Evaluation Criteria" (see Appendix G) will be incorporated in this chapter. The responses given by the purchasing organizations designating their selection criteria will be used to justify the survey responses in the source development chapter.

B. SIGNIFICANT DIFFERENCES

While both commercial-oriented businesses and Government-oriented businesses differ in other areas, they virtually agreed in every aspect of source development. No questions showed a significant difference using the Student's t-Test; however, questions four and seven (see topic area Source Development of Appendix E) did barely show a significant difference using the Wilcoxon-Mann-Whitney test. For this reason these two questions will be examined in this section.

1. Paying Premiums for New Sources

Members of each group were asked if they sometimes pay higher prices for supplies or services in order to develop new sources. As Table 20 shows, Government-oriented businesses, by a 77.4 percent to 18.1 percent majority, overwhelmingly agree with this statement while commercial-oriented businesses also strongly agree by a 64.4 percent to 28.9 percent majority.

TABLE 20

TOPIC AREA: Source Development

QUESTION: We sometimes pay greater prices for supplies or services in order to develop new sources.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	9.1%	13.3%
Agree	68.3%	51.1%
No Opinion	4.5%	6.7%
Disagree	13.6%	24.4%
Strongly Disagree	4.5%	4.5%
TOTAL	100.0%	100.0%

This can be further substantiated by the responses given in the contractor evaluation criteria section also included in this chapter.

In both the commercial-oriented businesses and Government-oriented businesses, they agreed that on-time delivery and quality were rated as either more important or equal to price in their evaluation, but price is still a major factor. In fact, the commercial-oriented businesses with sales less than \$10 million, price was still the major requirement, followed by on-time delivery and the subcontractor's credibility or reputation. The fact that both

groups were willing to pay higher prices to develop alternative sources nevertheless is supported by these evaluation criteria factors to a large extent.

2. Price Versus Quality Sensitivity

In the development of new sources of supply, price versus quality is at issue. Question seven of the survey (see Appendix E) asked both groups to respond to the statement that their subcontractors are quality sensitive rather than price sensitive. Table 21 shows Government-oriented businesses tended to agree with this statement by a 52.4 percent to 23.8 percent majority. However, the commercial-oriented businesses were nearly evenly split on their responses. By a 36.4 percent "agree" versus a 31.8 percent "disagree" split, the commercial-oriented businesses felt their subcontractors were more quality sensitive than price sensitive.

While the tradeoff between price and quality is apparent in the commercial-oriented businesses responses, what is distinctive about this question is the number of "no opinion" responses. The contractor evaluation criteria may show reasons why 23.8 percent of the Government-oriented businesses and 31.8 percent of the commercial-oriented businesses responded with "no opinions". One possibility is that one third of the commercial-oriented businesses, all with sales less than \$10 million, expressed the desire for continuation of an old or established business relationship. Another factor is a firm's credibility or reputation. These

TABLE 21

TOPIC AREA: Source Development

QUESTION: Most of our sub-component subcontractors are quality sensitive rather than price.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	14.3%	9.1%
Agree	38.1%	27.3%
No Opinion	23.8%	31.8%
Disagree	14.3%	29.5%
Strongly Disagree	9.5%	2.3%
TOTAL	100.0%	100.0%

factors tend to be more important to the smaller firms than they do to those companies, both Government-oriented businesses and commercial-oriented businesses, with sales greater than \$50 million.

C. SIMILARITIES

In general, the development of new sources of supply for both Government-oriented businesses and commercial-oriented businesses is indistinct. As documented by the survey, the similarities in the practices and procedures are nearly indistinguishable from each other. This section will also

review some of the evaluation criteria used by these businesses in their selection processes.

1. Evaluation of New Sources

Both the Government-oriented businesses and commercial-oriented businesses agree that they have a designated procedure for new source evaluation. This is shown by question one (see Appendix E) which has a 70.0 percent "agree" to a 20.0 percent "disagree" response for Government-oriented businesses while commercial-oriented businesses responded with a 57.7 percent "agree" versus a 24.5 percent "disagree" to the same question. The "no opinion" responses for both groups came primarily from the smaller firms with sales less than \$10 million. This is not to say that small firms do not do any evaluation of subcontractors or suppliers, but that they may not have designated evaluation criteria.

Question two of the survey under topic area Source Development stated: We request Dun and Bradstreet or similar external financial reports for new sources in order to evaluate their past historical performance prior to negotiating contracts with them. 72.2 percent of the Government-oriented businesses and 60.0 percent of the commercial-oriented businesses gather this type of financial data (see Table 22). However, the smaller firms are still the ones most likely not to ask for this data.

While the majority of the businesses have designated procedures for new source evaluation, a review process for

TABLE 22

TOPIC AREA: Source Development

QUESTION: We request Dun & Bradstreet or similar external financial reports for new sources in order to evaluate their past historical performance prior to negotiating contracts with them.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	23.8%	20.0%
Agree	52.4%	40.0%
No Opinion	9.5%	4.4%
Disagree	4.8%	26.7%
Strongly Disagree	9.5%	8.9%
TOTAL	100.0%	100.0%

these potentially new sources is not as defined. Government-oriented businesses agree, by a 45.0 percent "agree" to a 30.0 percent "disagree" response on this issue (see Table 23). The question, which asked the respondents if they actively seek and review all potentially new subcontractors on a periodic basis (one year or less), showed that for commercial-oriented businesses only 58.6 percent of the respondents did meet this goal whereas 24.4 percent did not.

Again, 25.0 percent of the Government-oriented businesses responded with a "no opinion". This may be caused

TABLE 23

TOPIC AREA: Source Development

QUESTION: We actively seek and review all potentially new subcontractors on a periodic basis (one year or less).

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	20.0%	21.9%
Agree	25.0%	36.6%
No Opinion	25.0%	17.1%
Disagree	25.0%	24.4%
Strongly Disagree	5.0%	0.0%
TOTAL	100.0%	100.0%

by one of two possibilities: (i) there is a periodic inspection, but it varies depending on the type of commodities or materials purchased or, (ii) not all subcontractors need a yearly review due to past performance and contract length. It should be pointed out that in Chapter II, Government-oriented businesses indicated their preference for long term contracts. This is in part, then, a logical response on the part of the Government-oriented businesses (see Table 4).

Question eight of the topic area Source Development (see Appendix E) stated: We evaluate new source's management as a major consideration prior to awarding long-term contracts

TABLE 24

TOPIC AREA: Source Development

QUESTION: We evaluate new source's management as a major consideration prior to awarding a long-term contract to them.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.5%	29.4%
Agree	54.6%	26.8%
No Opinion	9.1%	14.6%
Disagree	22.7%	26.8%
Strongly Disagree	9.1%	2.4%
TOTAL	100.0%	100.0%

to them (see Table 24). While both Government-oriented businesses and commercial-oriented businesses' firms agree by a 59.1 percent and 56.2 percent, respectively, with the statement, there appeared an inconsistency in another portion of the survey. In the survey section of Evaluation Criteria (see Appendix G) the respondents did not indicate, on the whole, that a subcontractor's management was deemed a significant criteria in the general evaluation of the selection process.

2. Reasons for New Source Development

Both commercial-oriented businesses and Government-oriented businesses are split in their opinions as the prime reason for new source development is to obtain lower purchase prices for the goods and services needed by the prime contractor. This question, number five of the topic area of Source Development (Appendix E), is concurrent with the contractors' evaluation criteria which showed that price was only one of the major criteria of source development. We are reminded that the other major criteria used by the respondents for supplier/subcontractor selection was for on-time delivery and quality or performance. Table 25 displays the survey results to this statement.

One significant reason for new source development is to ensure several, reliable subcontractors are available to foster improved product quality and not necessarily price reduction. This statement was overwhelmingly endorsed by both Government-oriented businesses and commercial-oriented businesses in the survey. Table 26 displays the findings of the survey concerning this area. It can be inferred that this response also emphasizes the importance of competition in establishing fair and reasonable prices, thereby supporting Table 24's findings.

3. Sole Source Contracts

Both private industrial groups, Government-oriented businesses and commercial-oriented businesses, responded to

TABLE 25

TOPIC AREA: Source Development

QUESTION: The primary reason for new source development is lower purchase prices.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	14.9%
Agree	38.1%	34.0%
No Opinion	9.5%	10.6%
Disagree	47.6%	31.9%
Strongly Disagree	0.0%	8.6%
TOTAL	100.0%	100.0%

a survey question that asked if less than thirty-three percent of their subcontracts were designated as sole source. The responses were mixed, with the Government-oriented businesses having 66.6 percent agreeing with the statement, while commercial-oriented businesses have 56.4 percent agreeing with the statement. Table 27 displays the survey findings. The majority of both groups, therefore, indicated that most of their subcontractors are not sole source.

Because the emphasis was not necessarily overwhelming, clearly expressing a disdain for sole source relationships,

TABLE 26

TOPIC AREA: Source Development

QUESTION: One major reason for new source development is to ensure several, reliable subcontractors are available to foster improved quality and not necessarily price reduction.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	22.7%	23.9%
Agree	54.6%	43.5%
No Opinion	9.1%	6.5%
Disagree	4.5%	21.7%
Strongly Disagree	9.1%	4.4%
TOTAL	100.0%	100.0%

there is some evidence that supports the continued use of sole source contracts. For example, it has been noted previously that:

"If the technology employed in the system is at the leading edge of (or advances) the state-of-the-art, it becomes unlikely that a second source will be able to produce the system without significant difficulties...probably necessitating significant cooperation between the original and second source producer." [17:54]

The respondents' seemingly less-than-enthusiastic stance on this issue and, given the above statement, can be combined to produce the results found earlier in the

TABLE 27

TOPIC AREA: Source Development

QUESTION: Less than 33% of my subcontractors are sole source.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	5.5%	25.6%
Agree	61.1%	30.8%
No Opinion	16.7%	7.7%
Disagree	16.7%	25.6%
Strongly Disagree	0.0%	10.3%
TOTAL	100.0%	100.0%

thesis. In Chapter I we found that for the Government-oriented businesses there was a large tendency for them to prefer long term contracts as a matter of course. As might be inferred, this long term arrangement essentially makes them and their suppliers sole source partners. (See Table 4). As Table 1 of the first chapter shows, the Government-oriented businesses prefer long term contracts whether or not they are in a technological environment.

Commercial-oriented businesses are more sensitive to the sole source situation in a technological environment. Because of the rapid technological changes which can occur

and may affect their competitive position, commercial-oriented businesses are neither strongly supportive or strongly against using sole source subcontractors.

This survey result also backed up the contractor evaluation criteria (to be discussed in the next section) which states that one of the major considerations for selecting a subcontractor involves a particular technology. This technology may influence the entire source development program and be the overriding factor in high technology firms, even though they may be sole source.

D. CONTRACTOR EVALUATION CRITERIA

No matter whether there is a written, specific evaluation process, or if only the purchasing manager's or procurement agent's own personal evaluation is used, the selection criteria are basically the same.

In general, each respondent was asked in the survey (see Appendix F) to select his five most important criteria for supplier or subcontractor evaluation. While some of the responses differed, the majority of the respondents picked the same five criteria in both the Government-oriented businesses and commercial-oriented businesses. These criteria are presented below, ranked in importance as taken from the survey (see Appendix G for the survey findings):

1. On-time delivery.
2. A known system performance for high quality.

3. A low price.
4. Credibility (the firm's reputation).
5. A particular technology.

Other criteria which received a significant number of responses were:

1. A familiar face; continuation of an old, established business relationship.

This supplier/subcontractor evaluation criteria was most important for commercial-oriented businesses with sales of less than \$50 million.

2. Corporate commitment; staying power.

This supplier/subcontractor evaluation criteria was important to both groups, Government-oriented businesses and commercial-oriented businesses with sales over \$50 million annually.

3. Corporate strength and willingness to absorb risk.

This supplier/subcontractor evaluation criteria was most important to Government-oriented businesses with sales over \$50 million annually.

E. SUMMARY

Finding and developing new sources of supply or services is one of the most important aspects of the purchasing function. While competitive prices and protection of sources is a major consideration, both Government-oriented businesses and commercial-oriented businesses are not adverse to paying premium prices to develop new suppliers/subcontractors.

For all practical purposes, the procedures and practices of both the private, industrial groups are virtually the same. Both Government-oriented businesses and commercial-oriented businesses tend to evaluate on-time delivery, quality and price as major criteria for any procurement. In addition, a supplier's/subcontractor's credibility and a particular technology the subcontractor might have, are important selection criteria.

Some of the reasons for new source development include price competition, ensuring adequate supplies of needed material, improving quality and evaluating supplier/subcontractor financial and managerial abilities. The fact that sole source contracts exist is not bad in itself, provided they do not supply the majority of a firm's subcontracts. Source development, then, is merely a part of subcontracting evaluation. Though not an end in itself, it is important in that it keeps purchasing personnel constantly on the lookout for new and viable alternatives to existing material and subcontractors. This, in turn, keeps suppliers and subcontractors constantly on their toes to maintain quality and price competition.

V. CONTRACT ADMINISTRATION

A. BACKGROUND

One of the paramount functions in the procurement process is contract administration. Whether the process involves an elaborate and formal system like one used by the Government, a group of expeditors, or just a buyer calling a supplier to find out if his order will be delivered on time, these are all forms of contract administration.

The administration of contracts is such an integral part of the procurement process that nearly every contract or purchase order involves some type of contract administration. Contract administration comprises many factors in addition to those addressed above. These factors include expediting deliveries, performing quality control inspection, making modifications to the original contract for engineering and quantity changes and price adjustments.

Failure to properly monitor a contract can have drastic consequences. Late deliveries may cause a costly production shutdown or major delays in project completion. In addition, quality control may not have been performed, which can cause additional maintenance and engineering problems. These problems can lead to warranty and legal suits arising from improper contract administration. This is best stated as follows:

"The purpose of contract administration is to assure the contractor performs his undertaking with the terms of the contract and gets paid for it. Many firms tend to downgrade contract administration and consider it an unimportant part of contract performance." [2:L-1-1]

How Government-oriented businesses view contract administration in contrast to commercial-oriented businesses will be further examined in this chapter. While both Government-oriented businesses and commercial-oriented businesses perform contract administration there are some very distinct differences in how these duties are carried out.

B. SIGNIFICANT DIFFERENCES

In general, Government-oriented businesses feel that their procurement organization is more open than the commercial-oriented businesses. In addition, the contract administration organization is considered more important and a more integral part of the overall business strategy by Government-oriented businesses than in the commercial-oriented businesses. Questions 1, 2 and 3 of the survey (see Appendix F): (i) asked the respondents if their firm tended to downgrade contract administration and consider it an unimportant part of contract performance; (ii) the respondents' method of procurement should not be under review by their potential customers either as a subcontractor or as a supplier to a prime contractor; (iii) preparation of proposals and negotiations of contracts is a responsibility of the marketing division. These three questions were found to have significant

differences in how each of the private, industrial groups answered the questions. The findings are presented below.

1. Contract Administration is Unimportant

According to question number one (see Appendix E) in the topic area of Contract Administration, Government-oriented businesses overwhelmingly believe that individual companies consider contract administration an important part of their procurement organization. On the other hand, commercial-oriented businesses were evenly divided over the issue of the importance of contract administration in their respective business firms.

As Table 28 shows, the stratification of responses is clearly seen in the commercial-oriented businesses. By a margin of 42.9 percent "agree" to a 33.3 percent "disagree", the commercial-oriented businesses feel that their individual firms are either indifferent or noncommittal on the matter. This is further evident by noticing the large "no opinion" response (23.8 percent) by the commercial-oriented businesses. There seems to be no clear, definitive opinion in the commercial sector as to whether or not their firms do, in fact, tend to downgrade contract administration.

In the Government-oriented businesses, not surprisingly, 91.4 percent of the respondents believed their firms strongly support the contract administration functions. This clearly shows the impact of Government regulations and reports on contract management and the visibility it has within

TABLE 28

TOPIC AREA: Contract Administration

QUESTION: Does your firm tend to downgrade contract administration and consider it an unimportant part of contract performance?

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.3%	11.9%
Agree	0.0%	21.4%
No Opinion	4.3%	23.8%
Disagree	52.2%	28.6%
Strongly Disagree	39.2%	14.3%
TOTAL	100.0%	100.0%

Government-oriented business firms. While there are significant differences between these two otherwise similar industrial groups, the following quote shows that the commercial-oriented businesses are beginning to place more emphasis on the contract administration function. With the use of what is known as "just-in-time-inventories" where supplies needed for production are made available immediately prior to their need, it has been observed that:

"In order to reduce costs of (just-in-time-inventory) leadtimes, and ensure there are no problems, our group staff are responsible for monitoring our orders with these suppliers." [19:16]

2. Prime Contractors Should not Review Subcontractors' Method of Procurement

The Government-oriented businesses also differed significantly from their commercial-oriented businesses peers' response to the statement on whether prime contractors, for which they are working, should have the right to review their individual subcontracting plans. Prime contractors in this situation would be the respondents potential customer and the respondents would be either the supplier or subcontractor in the relationship.

As Table 29 shows, Government-oriented businesses, by a 69.9 percent to a 21.7 percent majority, believed that their procurement systems should be open and available for review by a prime (potentially new customer) contractor. In contrast, Table 29 also shows that commercial-oriented businesses, by a 52.4 percent to 38.1 percent majority, believe their procurement systems should not be made available for review by their prime (potentially new customers) contractors. This dichotomy in the beliefs between the two, private industrial groups is very significant. However, this question may be biased by the fact that the procurement and accounting systems must be open by Government regulations for those companies doing business with Federal agencies (Government-oriented businesses). Therefore, their beliefs and practices tend to conform to those regulations.

TABLE 29

TOPIC AREA: Contract Administration

QUESTION: My method of procurement should not be under review by my potential customers either as a subcontractor or as a supplier to a prime contractor.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.3%	21.4%
Agree	17.4%	31.0%
No Opinion	8.7%	9.5%
Disagree	47.8%	28.6%
Strongly Disagree	21.8%	9.5%
TOTAL	100.0%	100.0%

3. Marketing Prepares and Negotiates Contracts

The last area of significant difference expressed was found in question three of the survey (see Appendix F in the Contract Administration topic area). As Table 30 shows, commercial-oriented businesses, by a 57.5 percent to 30.0 percent margin, agree with the statement that preparations of proposals and their subsequent negotiation is a responsibility of the marketing division. In contrast, the Government-oriented businesses by nearly a two-to-one margin (65.2 percent to 30.4 percent) have the opinion that the planning and proposal negotiations are not handled by the marketing department of their respective firms.

TABLE 30

TOPIC AREA: Contract Administration

QUESTION: Preparation of proposals and the negotiation of contracts is a responsibility of the marketing division.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	13.0%	20.0%
Agree	17.4%	37.5%
No Opinion	4.4%	7.5%
Disagree	34.8%	20.0%
Strongly Disagree	30.4%	15.0%
TOTAL	100.0%	100.0%

Minority business programs, Buy American Act and the Walsh-Healey Act all require inputs from various departments such as procurement, finance and personnel. The majority of the Government respondents who strongly disagreed on this issue were firms in the \$10 to \$50 million sales bracket. These firms apparently do not have the personnel and established procedures of the larger firms although they both have the same requirements. While commercial-oriented businesses must abide by the basic business regulations, the specific Government mandated programs stipulated in Government contracts are not prevalent in the commercial sector,

and therefore, the marketing department in these companies do not require detailed and specialized inputs the way Government-oriented businesses do. The marketing strategy of the Government-oriented businesses tend to be more targeted than their peers, commercial-oriented businesses. One outgrowth of the targeting of customers in Government-oriented businesses is the lack of commercial advertising done by them. Since advertising is not an allowable expense in Government contracts, this is not a major factor in the marketing departments of Government-oriented businesses. Therefore, the marketing philosophies differ between the two private industrial groups.

C. SIMILARITIES

In the survey several questions showed a difference but were not found to be significant using the statistical tests. These included: (i) the stability of requirements in commercial versus government contracts, (ii) the impact of the contracts department on the overall firm and (iii) the use of audit or monitoring teams at a subcontractor's site. Questions four through ten showed similar views within both groups; but questions five, eight, nine and ten are addressed below because of their overall impact on contract administration or the differences related to part B, above.

All the questions are analyzed in Appendix F.

1. Purchasing Within the Organization

Government-oriented businesses overwhelmingly support the practice and principle that purchasing departments are on an equal level with other departments within the same organization. The same group also stated that their respective top managements were strongly supportive of their procurement departments. Questions eight and nine (see Appendix F) express this overall opinion.

Question eight (see Table 31) asked if the contracts organization, within their organizations, is on a comparable organizational level with other major departments of the company. Question nine (see Table 32) asked if the senior management level of their respective firms did not fully realize the contributions the contracts department makes to the corporation as a whole. In the commercial-oriented businesses both questions have divided answers. By a 43.9 percent to 29.3 percent margin, the commercial-oriented businesses agreed that the purchasing organization is on an equal level with other departments (see Table 31). The real difference is seen by the commercial-oriented businesses' 14.6 percent "strongly agree" response compared with a 4.9 percent "strongly disagree" response to the same question. However, with a 26.8 percent "no opinion" this clearly indicates that the commercial-oriented businesses are not united in their beliefs.

TABLE 31

TOPIC AREA: Contract Administration

QUESTION: Our contracts organization is at a comparable organizational level with other major departments of the company.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	21.7%	14.6%
Agree	56.5%	29.3%
No Opinion	0.0%	26.8%
Disagree	13.1%	24.4%
Strongly Disagree	8.7%	4.9%
TOTAL	100.0%	100.0%

One observation is that the larger the firm, the more important the purchasing department becomes. This is further supported by the results in Table 32 where the commercial-oriented businesses are exactly divided on their response to top management's support. Here, the purchasing personnel in larger firms tended to feel that top management is more supportive than the smaller firms which responded to the questionnaire.

As far as contract administration within the organization is concerned, both Government-oriented businesses and commercial-oriented businesses are in clear agreement with

TABLE 32

TOPIC AREA: Contract Administration

QUESTION: The senior management level of our firm probably does not fully realize the contributions the contracts department makes to the corporation as a whole.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.5%	11.9%
Agree	27.3%	26.2%
No Opinion	4.5%	23.8%
Disagree	45.5%	26.2%
Strongly Disagree	18.2%	11.9%
TOTAL	100.0%	100.0%

each other. They both disagree, by 77.3 percent and 61.0 percent majorities, that the responsibility of contract administration should not begin only after contract award. Table 33 displays these results.

Related to the above issue, both groups disagree, by 61.8 percent and 65.9 percent majorities, contract administration should be separated from the purchasing agent (buyer) that awarded the contract. (See Table 34).

The above questions clearly show that both of the private, industrial respondents believe that contract

TABLE 33

TOPIC AREA: Contract Administration

QUESTION: The responsibility of contract administration begins only after contract award.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.5%	12.2%
Agree	18.2%	12.2%
No Opinion	0.0%	14.6%
Disagree	36.4%	43.9%
Strongly Disagree	40.9%	17.1%
TOTAL	100.0%	100.0%

administration is not a task taken only to administer a contract after an award has been made. But with the buyer being responsible throughout the entire contract's life, this necessitates a continued and detailed administration of the entire contractual effort.

It is important to note that the purchasing departments of commercial-oriented businesses have a more neutral opinion than their peers, the Government-oriented businesses, concerning their relationships with top management and the recognition of the purchasing departments as being on equal footing with other departments. The responses of the

TABLE 34

TOPIC AREA: Contract Administration

QUESTION: Contract administration should be separated from the purchasing agent (buyer) that awarded the contract.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	4.6%
Agree	23.8%	15.9%
No Opinion	9.6%	13.6%
Disagree	47.6%	50.0%
Strongly Disagree	14.2%	15.9%
TOTAL	100.0%	100.0%

Government-oriented businesses tend to belie the statement, however, that "in many firms, contract administrators are considered to be mere clerks whose responsibility it is to keep the government personnel from annoying the technical people" [2:1-1-1]. The survey certainly would take issue with this pointed statement.

2. Use of Audit Teams at Subcontractor's Plant

When asked if their organizations use on-site audit/monitor teams at their major subcontractor's facilities to administer contracts, the results were mixed. The Government-oriented businesses indicated by a 42.1 percent versus 31.6

percent margin that they indeed use such teams at their subcontractor's plants. The responses from the commercial-oriented businesses were relatively neutral on the subject.

As Table 35 shows, 56.3 percent of the commercial-oriented businesses and 26.3 percent of the Government-oriented businesses responded with a "no opinion". This survey's question may have been too ambiguous and nondefinitive to clearly draw any major conclusions. However, with 37.5 percent of the commercial-oriented businesses disagreeing with the survey's statement, the implication becomes one of the degree to which commercial-oriented businesses use audit teams at their subcontractor's plant.

The findings, as illustrated in Table 35, do support an earlier response. Referring back to Table 28 where it was found that for commercial-oriented businesses, there was a strong showing that contract administration is not deemed as important as it is in the Government-oriented businesses. This, then, lends support to why the commercial-oriented businesses may have been divided over use of audit/monitor teams at their major supplier/subcontractor's plants.

3. Stability of Contract Requirements

The respondents were asked their opinion on the relative stability of contract requirements, in the private commercial world, throughout the life of that contract. Table 36 displays the corresponding results.

TABLE 35

TOPIC AREA: Contract Administration

QUESTION: My organization uses on-site audit/monitor teams at our major subcontractor's facilities to administer contracts that are over \$_____.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	10.5%	3.1%
Agree	31.6%	3.1%
No Opinion	26.3%	56.3%
Disagree	15.8%	31.3%
Strongly Disagree	15.8%	6.2%
TOTAL	100.0%	100.0%

By a 59.1 percent "agree" versus a 22.7 percent "disagree" majority, commercial-oriented businesses believe that specifications are designed such that few changes take place over the length of the contract. This may be attributed to the marketing philosophies and mass production requirements associated with commercial advertising. The Government-oriented businesses, in contrast, are evenly split on their beliefs that specifications remain consistent, as Table 36 shows.

Another factor is the type of contract and, whether it is a production or research/development contract determines

TABLE 36

TOPIC AREA: Contract Administration

QUESTION: In the private commercial world, industry requirements for a given ontract are relatively stable throughout the life of that contract.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	5.0%	11.4%
Agree	35.0%	47.7%
No Opinion	20.0%	18.2%
Disagree	30.0%	18.2%
Strongly Disagree	10.0%	4.5%
TOTAL	100.0%	100.0%

the amount of consistency the contract brings to itself. Where Government-oriented businesses may try to "buy in" [8:149]--that is, bid a low price and try to increase their profit by making changes later on in the contract--commercial-oriented businesses are more cost conscience due to potential price sensitivity (as supported by Table 2) and advertising programs based on the design of the end item.

Yet another aspect that might cause Government-oriented businesses to face contractual changes involves Congressional budget restraints and socio-economic programs.

Changes in this environment mean contractual changes in the Government-oriented businesses' world which are not always associated with the contractual relationships in the commercial-oriented businesses' world. These Congressional and socio-economic changes bind the parties in the Government-oriented businesses' world, and are less likely to affect the parties in the commercial-oriented businesses' world.

D. SUMMARY

"Verifying progress is the key to subcontract management" [16:29]. While contract administration is overwhelmingly emphasized by Government-oriented businesses, commercial-oriented businesses have recently begun to recognize the importance of the role of contract administrators. This contract management role can best be summarized as follows:

"Cost (or price), schedule, and performance are the three major areas of activity to be dealt with in every status report regardless of subcontract type; only the depth of detail increases as complexity and control increases." [16:59]

Top management in Government-oriented businesses know that Government regulations involving many socio-economic programs are really administered through the purchasing function. In addition, these same managers know that their company's compliance and management of these socio-economic programs is a driving force in their ability to get subcontracts and prime contracts for Government sponsored programs. Commercial-oriented businesses are finding that major financial

benefits can be accrued by better administration of subcontracts.

VI. PRINCIPAL FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

A. PRINCIPAL FINDINGS

The primary purpose of this thesis is to determine if there are any differences between Government-oriented businesses and commercial-oriented businesses in their respective purchasing principles and practices. To gain a broad overview of these principles and practices, four areas of concentration were examined by means of a survey. These areas--long term contracting, subcontracting, source development and contract administration comprise general principles and procedures which are common to nearly all purchasing organizations.

One constraint on this survey is the geographical location of these companies. Only California businesses or companies with major divisions or subdivisions, located in California, were surveyed. Many of the companies responding to the survey are in the high technology and aerospace industries prevalent in this state. While these companies may represent the current thinking within California, the responses may be quite different if the companies were in older, industrial areas such as the midwest or northeastern part of the country.

In this study, each individual area has been thoroughly examined. This summary will deal only with the broad trends which show the overall relationships between the Government-oriented businesses and the commercial-oriented businesses in their respective purchasing principles and practices.

To better visualize the relationship between the two entities, we will trace a procurement through the source development, subcontract, long term contracting and contract administration cycle.

Starting with source development, both the Government-oriented businesses and commercial-oriented businesses use similar criteria and procedures to find potential subcontractors and suppliers. While there is a tendency for commercial-oriented businesses to be slightly more price sensitive than Government-oriented businesses, the differences are relatively minor.

Differences begin to show in the subcontracting procedures and principles between the Government-oriented businesses and commercial-oriented businesses. Both the Government-oriented businesses and commercial-oriented businesses tend to subcontract with small businesses to increase their supplier base and have had satisfactory performances from them as well. However, the Government-oriented businesses place more emphasis on subcontracting with small businesses, using the Small Business Administration to establish new small business relationships and are less likely to fund pre-production research and development themselves than are commercial-oriented businesses. It is apparent from the survey responses that these differences are most likely results of the Federal laws and regulations imposed through the Government purchasing process.

The next area of the purchasing cycle is long term contracting. Again, the procedures and practices for both Government-oriented businesses and commercial-oriented businesses are similar. Both segments share the view that long term contracting has benefits in manpower utilization, resource management and funding. However, there are differences in how each views contracting in a high technology environment. The commercial-oriented businesses are much less likely to negotiate long term contracts in a rapidly changing technology industry than are Government-oriented businesses.

This difference may be caused by the Government requirement for subcontractors to meet special quality control standards in the production of subcomponents and assemblies. Commercial-oriented businesses are not restricted by the same quality control requirements dictated by Government regulations. For this reason, commercial-oriented businesses prefer short term contracts in high technology industries which allows them to take advantage of competition fostered by the development of new substitute products and lower cost production processes.

The final area in the purchasing cycle which the survey included is that of contract administration. While contract administration is highly regarded by Government-oriented businesses, it is not considered as important a factor by commercial-oriented businesses. This is further emphasized

by the role played by purchasing in proposal preparation. In commercial-oriented businesses, the marketing department is primarily responsible for contract negotiation due to the traditional aspects of the advertising and marketing functions. In Government-oriented businesses, however, the purchasing department has a greater input to proposals. This increased participation is due to a unique, federally imposed procurement process that is administered through the purchasing department.

Organizational differences in the purchasing departments are relatively minor. Both Government-oriented businesses and commercial-oriented businesses prefer to keep the actual buyer and the buying activity with the administration of the contract.

Another area of differences in the survey concerns the problems associated with changes in specifications. In the subcontracting section of the survey, both Government-oriented and commercial-oriented businesses expressed agreement that frequent changes are a problem. However, in the contract administration section, the belief that specifications are relatively stable in the commercial sector is held by the commercial-oriented businesses more than the Government-oriented businesses. Though the Government-oriented businesses are equally divided in the stability of specifications impact on a contract, the responses indicate that changes in specifications on a contract are less frequent for the

commercial-oriented businesses than it is for their Government-oriented business peers.

B. CONCLUSIONS

This thesis is considered a baseline study. It encompassed the overall functions of both Government-oriented businesses and commercial-oriented businesses to determine if there are any differences in how each sector conducts its purchasing function. From this, the following conclusions are found:

1. There are differences in the purchasing principles and practices between Government-oriented businesses and commercial-oriented businesses.

These differences are expressed in each section of the survey.

2. Government laws and regulations do affect the principles and practices of Government-oriented businesses.

This survey shows that the Small Business Administration does impact the practices of Government-oriented businesses. However, the survey does not quantify any costs which may be associated with these laws and regulations. Other laws and regulations such as the Walsh-Healey Act and Buy American Act impact Government-oriented businesses' purchasing practices such that they differ from practices in commercial-oriented businesses.

3. There are differences between businesses with sales less than \$10 million and those with sales over \$10 million.

This survey found that there are differences in responses within Government-oriented businesses and commercial-oriented businesses when stratified by sales revenue. Some of these differences were expressed in the subcontracting section of this thesis. Due to time constraints, this stratification was not completed.

4. The purchasing department is viewed with higher esteem by Government-oriented businesses than by commercial-oriented businesses.

This is a function of Government regulations primarily. For example, due to the number of socio-economic programs administered through the purchasing organization, a specialization with businesses dealing with the Government is demanded. For Government-oriented businesses, this effort has become the responsibility of the purchasing departments much more so than in commercial-oriented businesses. The respondents from commercial-oriented businesses also indicated that purchasing is not uniformly considered as important as other functions such as production and marketing.

5. Although differences exist between the two groups, the similarities they shared were striking. The similarities suggest that both Government-oriented businesses and commercial-oriented businesses are closer in their practices than the differences brought out in the survey would indicate.

One respondent, who has worked in both Government and commercial-oriented businesses, recommends that "the best of both" (procurement practices) should be used in order to achieve the level of professionalism in the procurement field sought for by Government-oriented and commercial-oriented businesses. The similarities found in the survey indicate that "the best of both" is closer to a reality than some would believe.

C. RECOMMENDATIONS

Further study should be done to:

- a. Establish the costs associated with Government laws and regulations on the purchasing function.
- b. Survey and analyze Government-oriented businesses on the additional costs associated with administering socio-economic programs.
- c. Conduct the survey in other areas of the country to see if the California companies are representative of the nation as a whole. Since only California companies were surveyed in this study, other industry and geographically located companies may have a different viewpoint in how their companies are affected by Government regulations. Additionally, functions of the purchasing departments may prove to be different in other parts of the country.
- d. Conduct further study of this survey's responses by stratifying companies by sales revenue. Differences were

found in the same responses when companies with sales revenue less than \$10 million were compared to those companies with sales over \$10 million. Due to time restraints, additional analysis of these responses were not performed.

e. Further study should be done in each area of the survey. While the survey asked a broad range of questions under each of the four topic areas, there is evidence that more detailed questions could be asked in all of the areas. For example, in contract administration, there is no standard type of purchasing organization to administer contracts in the commercial-oriented sector. While in the source development section the similarities in purchasing practices were greater than in any other section. Since each section of the survey was addressed by only eight to twelve questions, a more detailed survey seeking answers to these issues may further confirm or disprove the conclusions of this study.

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APPENDIX A
SURVEY QUESTIONNAIRE

1. Would you classify your firm as primarily dealing with government agencies or private firms?

 _____ Government
 _____ Private
2. Approximately what percentage of your sales are

 _____ Department of Defense
 _____ Other Government Agencies
 _____ Private Businesses
3. Classify the size of your business based on yearly sales volume:

 _____ Under \$10 million
 _____ \$10 million to \$50 million
 _____ Over \$50 million
4. Are you designated as Minority or a Small Business by the SBA?

 _____ Yes
 _____ No
5. Are you primarily a subcontractor (assembly and fabrication for a specific contractor)?

 _____ Yes
 _____ No
6. Are you primarily a supplier (selling basically off the shelf spare parts or material with some fabrication only for wholesale)?

 _____ Yes
 _____ No

7. Are you prime contractor for final assembly and sale to a final end user of the product?

_____ Yes

_____ No

8. Are you a wholly owned subsidiary or a major division of a larger corporate entity?

_____ Yes

_____ No

9. Where in the overall organization is your contracts division located?

_____ Marketing Division

_____ Production Division

_____ Contracts Division

_____ Finance Division

_____ Other (give name)

Source Development

These questions deal with the way in which your firm may use or develop new suppliers.

1. We have a designated procedure for new source evaluation.

A B C D E F

2. We request Dun & Bradstreet or similar external financial reports for new sources in order to evaluate their past historical performance prior to negotiating contracts with them.

A B C D E F

3. We actively seek and review all potentially new subcontractors on a periodic basis (one year or less).

A B C D E F

4. We sometimes pay greater prices for supplies or services in order to develop new sources.

A B C D E F

5. The primary reason for new source development is lower purchase prices.

A B C D E F

6. One major reason for new source development is to ensure several, reliable subcontractors are available to foster improved product quality and not necessarily price reduction.

A B C D E F

7. Most of our sub-component subcontracts are quality sensitive rather than price.

A B C D E F

8. We evaluate new source's management as a major consideration prior to awarding a long-term contract to them.

A B C D E F

9. Most of my subcontracts are sole source (have not been competed within the last two years).

A B C D E F

10. Less than 33% of my subcontracts are sole source.

A B C D E F

11. Competition between suppliers is an important criteria to establish fair and reasonable prices.

A B C D E F

A=Strongly Disagree B=Disagree C=No Opinion D=Agree
E=Strongly Agree F=Do Not Know

Long Term Contracting

These questions attempt to gain a feeling for your opinion on long-term contracts.

1. Long term (two or more years) contracts allow better capital resource planning for material.

A B C D E F

2. Long term contracts allow better utilization of manpower that could result in learning curve and related productivity savings.

A B C D E F

3. We prefer long term (two or more years) contracts over single year contracts.

A B C D E F

4. With long term (two or more years) contracts we are willing to buy larger quantities of raw materials. (stockpile)

A B C D E F

5. We prefer fixed price long term (two or more years) contracts to single year cost reimbursable type contracts.

A B C D E F

6. We could get better prices from our suppliers with long term (two or more years) contracts.

A B C D E F

7. For those products with rapidly changing technology we prefer short-term (one year or less) contracts to take advantage of emerging technology.

A B C D E F

8. In a rapidly changing technological industry we prefer single year contracts to take advantage of increased competition and lower prices.

A B C D E F

9. Fixed price long term (two or more years) contracts with economic escalator is preferable by suppliers to single year cost plus contracts.

A B C D E F

10. The lack of long term (two or more years) funding for contracts on a potentially long term (two or more years) delivery product does not allow us to pass on cost savings that would be associated with long term (two or more years) funding.

A B C D E F

11. Whether funding is single year or long term (two or more years) makes relatively little difference on the total pass through savings on contracts, because the effect of our firm meeting future delivery schedules will, as a matter of course, be funded in the final analysis.

A B C D E F

12. We receive quantity discounts for buying bulk quantities.

A B C D E F

A=Strongly Disagree B=Disagree C=No Opinion D=Agree
E=Strongly Agree F=Do Not Know

Subcontracting

These questions try to relate small business to the procurement process in terms of their overall competitiveness.

1. We actively seek small business firms as primary subcontractors.

A B C D E F

2. We seek higher priced small business designated companies mainly on cost reimbursable versus fixed price contracts.

A B C D E F

3. Fewer than 20% of our subcontractors/suppliers are designated by the SBA as a small business.

A B C D E F

4. In our dealings with small businesses, they have proven to be dependable subcontractors/suppliers.

A B C D E F

5. The SBA has provided additional help to us in establishing new business relationships with other contractors/suppliers.

A B C D E F

6. SBA companies always identify themselves as SBA companies in solicitations and actively seek contracts from us.

A B C D E F

7. In procurements where research and development may be required prior to actual production, the individual contractor finances most of the development cost with his own funds.

A B C D E F

8. Frequent changes in specifications is a major problem during the life of a contract.

A B C D E F

A=Strongly Disagree B=Disagree C=No Opinion D=Agree
E=Strongly Agree F=Do Not Know

Contract Administration

1. Does your firm tend to downgrade contract administration and consider it an unimportant part of contract performance?

A B C D E F

2. My method of procurement should not be under review by my potential customers either as a subcontractor or as a supplier to a prime contractor.

A B C D E F

3. Preparation of proposals and the negotiation of contracts is a responsibility of the marketing division.

A B C D E F

4. The responsibility of contract administration begins only after contract award.

A B C D E F

5. My organization uses on-site audit/monitor teams at our major subcontractor's facilities to administer contracts that are over \$_____.

A B C D E F

6. Contract Administration should not be separated from the purchasing activity that awarded the contract.

A B C D E F

7. Contract administration should be separated from the purchasing agent (buyer) that awarded the contract.

A B C D E F

8. Our contracts organization is at a comparable organizational level with other major departments of the company.

A B C D E F

9. The senior management level of our firm probably does not fully realize the contributions the Contracts department makes to the corporation as a whole.

A B C D E F

10. In the private commercial world, industry requirements for a given contract are relatively stable throughout the life of that contract.

A B C D E F

9

A=Strongly Disagree B=Disagree C=No Opinion D=Agree
E=Strongly Agree F=Do Not Know

PROSPECTIVE CONTRACTOR EVALUATION CRITERIA

In the selection process of awarding a contract to a subcontractor, your firm may cover several specific areas in the review process prior to actually awarding a contract. Listed below are twelve (12) possible areas that may be considered during such an evaluation process.

Please select any five (5) of the below listed criteria and rank them in order of importance (i.e. 1. may be A, 2. may be G and so on) as you see them for helping to determine which contractor will be given the contract. If there is not a factor listed below, but considered important in your selection process, include the factor in your rankings below as "Other".

- ☐ A. Corporate commitment; staying power.
(long term viability)
- ☐ B. Credibility. (firm's reputation)
- ☐ C. Corporate strength and willingness to absorb risk.
- ☐ D. A particular technology.
- ☐ E. A particular design.
- ☐ F. A low price.
- ☐ G. A familiar face; continuation of an old or established business relationship.
- ☐ H. Special production facilities.
- ☐ I. Has a known system performance for higher quality.
- ☐ J. On time delivery.

____ K. Management strength.

____ L. Financial strength (can finance project
through their own sources)

____ M. Other _____

ADDITIONAL COMMENTS (IF DESIRED):

APPENDIX B

COMPANIES SURVEYED

In response to the survey, forty three (43) commercially-oriented businesses and twenty two (22) government-oriented businesses responded with useable surveys. In addition, eight (8) firms responded with only partially completed surveys.

CITY IN CALIFORNIA

COMPANY NAME

ALHAMBRA
ANAHEIM

C.F. BRAUN & CO.
AEROSCIENTIFIC CORP.
AGGRESSIVE ENGINEERING CORP.
ALTEC CORP.
AMECON
DATUM INC.
INTERSTATE ELECTRONICS

ROBERT SHAW CONTROLS
INDUSTRIAL INSTRUMENTS

ROBERTSHAW CONTROLS CO.
ROCKWELL INTERNATIONAL

BAKERSFIELD
BELMONT

H.E. AARON COMP., INC.
ADVANCE ELECTRICAL SALES, INC.
BAY CONCRETE CORP.

DALMO-VICTOR OPERATIONS
DIVISION OF BELL AEROSPACE TECTRON

BERKELEY

AIRCO TEMESCAL
BERKELEY PUMP CO. INC.

BEVERLY HILLS
BURBANK

BARRIS INDUSTRIES, INC.
ABBOTT TRANSISTOR LABS INC.
ABBOTT TRANSISTORS LABS
AERO SCREW PRODUCTS CO., INC.
AVIBANK MFG. INC.
CRANE COMPANY
D-CEMCO INC.
HASKEL INC.
ZERO CORP.

CALABASAS

LITTON INDUSTRIES
AERO PRODUCTS DIVISION

CAMPBELL

ROSS ENGINEERING CORP.

CANOGA PARK

HUGHES AIRCRAFT CO.
AIROSPACE GROUP

INSTRUMENT CORP.

CARSON
CHATSWORTH

TIEX, INC.
ALLEGRETTI & CO.
ANADEX INC.
AWADEX INC.
HARRIS CORP. - DRACON DIV.
LITTON ENCODER DIVISION
METAL BELLOWS CORP.

CHULA VISTA
CITY OF INDUSTRY

RISI INDUSTRIES, INC.
ACRON ENGINEERING CO.
ACT FLASH ROPER

SURVEY SENT TO:

CITY IN CALIFORNIA

COMPANY NAME

	ADAMS RITE MFG CO.
COLUSA	I.G. ZUMWALT CO.
COMPTON	AMALGAMTED FASTENERS, INC.
	CRAIE CORP.
	TRANSEQIP, INC.
CONCORD	SILVER INSTRUMENTS, INC.
	SYSTRON DONNER
COSTA MESA	ADVANCED KINETICS INC.
	CIRCUIT ASSEMBLY CORP.
	MASTER SPECIALTIES
CULVER CITY	LITRONIX INC.
CUPERTINO	APPLE COMPUTER INC.
	HEWLETT-PACKARD/ DATA TERMINALS
	MEASUREX CORP.
EL MONTE	BROWN-JORDAN CO.
	GOULD INC., NAVCOM SYSTEMS DIV.
	SARGET-FLETCHER COMP.
	STANDARD CRYSTAL CORP.
EL SEGUNDO	APPIED PLASTICS CO. INC.
	ROCKWELL INTERNATIONAL CORP.
	TETRAFLOW, INC.
	XEROX CORP.
FULLERTON	AEROJET MFG. CO.
	BECKMAN INSTRUMENTS INC.
GARDEN GROVE	ACME WIRE PRODUCTS CORP.
GARDENA	REX PRECISION PRODUCTS
GLENDALE	BEKINS CO.
GOLETA	DELCO ELECTRONICS
	GENERAL MOTORS CORP.
HARBOR CITY	ROCKER INDUSTRIES
HAWTHORNE	BGW SYSTEMS, INC.
HOLLISTER	CAELUS DEVICES, INC.
HOLLYWOOD	A.T. PARKER, INC.
HUNTINGTON	KOBE INC.
HUNTINGTON BEACH	MCDONNELL DOUGLAS ASTRONAUTICS
	CO.
HUNTINGTON PARK	BRUMLEY-DONALDSON CO.
INGLEWOOD	AIRCRAFT VALVE MFG. CO.
IRVINE	ALPHA MICRO
	BENTLEY LABORATORIES
LA HABRA	ALPHA BETA CO.
LA JOLLA	ZEISS AVIONICS SYSTEMS, INC.

CITY IN CALIFORNIA

COMPANY NAME

LONG BEACH

ABSOBOND CO.
ALFLEX CORP.
PAC ORD INC.

LOS ALAMITOS
LOS ANGELES

PERMAG PACIFIC CORP.
A&J MANUFACTURING CO.
AIRCRAFT BEARING CORP.
AIRCRAFT FASTNERS CORP.
ALTIUS CORP.
ARDEN-MAYFAIR, INC.
BARRY AVE. PLATING CO., INC.
BARTH & DREYFUSS
BASZILE METALS SERVICE
BEAM PRODUCTS MFG. CO.
BELL INDUSTRIES
BENDER MACHINE, INC.
BREWMATIC CO.
BRON JACKSON PUMP
GARRETT CORP.
HOOVER ELECTRIC CO.
M.J. BROCK & SONS, INC.
MINARIK ELECTRIC CO.
PELCO MFG. CO.
PERSCI INC.
PIONEER ALUMINOM INC.
PLESSEY PRECISION METALS
SAN JUAN EXPORTS & IMPORTS
TELEDYNE WESTERN WIRE & CABLE
TELEDYNE, INC.
TRW ELECTRONIC COMPONENTS GROUP
TWENTIETH CENTURY-FOX FILM CORP.
UNITED ARTISTS RECORDS
UNIVOX-CALIFORNIA, INC.

LYNWOOD
MARYSVILLE
MENLO PARK

WESTERN GEAR CORP.
BALDWIN CONTRACTING CO.
PARSONS MFG.
SIERRA ELECTRONIC

MONTEREY PARK

ARROWHEAD PURITAS WATER, INC.
AUTO-GRAPHICS, INC.

MOUNTAIN VIEW

FAIRCHILD CAMERA & INSTRUMENT CORP
GTE SYLVANIA SYSTEMS
GTE SYLVANIA SYSTEMS, WESTERN DIV.
NEC ELECTRONICS USA
RAYTHEON COMP., SEMICONDUCTOR DIV.
SOLITEC INC.

NEWBURY PARK
NEWPORT BEACH

TELEDYNE ELECTRONICS
BURLINGTON NORTHERN AIR
WESTERN DIGITAL CORP.

NORTH HOLLYWOOD

BENDIX ELECTRODYNAMICS DIVISION
WHITTAKER CONTROLS

SURVEY SENT TO:

CITY IN CALIFORNIA

COMPANY NAME

OAKLAND

AMERICAN BRASS & IRON FOUNDRY
BARR MFG. CO.
KAISER AEROSPACE & ELECTRONIC
PERITEK CORP.
TRANSAMERICA AIRLINES

OCEANSIDE
ONTARIO
ORANGE
OXNARD
PALO ALTO

ACDC ELECTRONICS
MARLEY ENTERPRISES, INC.
ANILLO INDUSTRIES, INC.
ARCTURUS MFG. CORP.
ALZA CORP.
BEMISS-JASON CORP.
CRYSTAL TECHNOLOGY INC.
DREXLER TECHNOLOGY CORP.

FORD AEROSPACE-WESTERN DEVELOPMENT
LABS

GENERAL INSTRUMENT
HEWLETT PACKARD COMPANY
TELEDYNE MEC

VARIAN ASSOC.-INDUSTRIAL EQUIPMENT
GRUOP

WATKINS-JOHNSON CO.

PASADENA

BELL & HOWELL-AVICOM
PARSONS CORP.

PASADENIA
PASO ROBLES
PLACENTIA
PLEASANT HILL
REDWOOD CITY
RIO VISTA
RIVERSIDE
SACRAMENTO
SALINAS
SAN CARLOS
SAN DIEGO

AVANTEK, INC.
VOLUMETRICS
ADCOAT, INC.
BENNER-NAWMAN INC.
AMPEX CORP.
BLACKWELDERS
BOURNS INC.
AEROJET STRATEGIC PROPULSION CO.
BUD ANTLE
GTE LENKURT
ACCU-SEAL CORP.
CONIC CORP.
GENERAL DYNAMICS ELECTRONICS DIV.
GENERAL DYNAMICS-ELECTRONIC DIV.
SAN DIEGO AIRCRAFT ENGINEERING

SAN FRANCISCO

ABBOT, COLE & DEGRAF, INC.
AMERICAN BUILDING MAINTENANCE
BANCROFT-WHITNEY CO.
BECHTEL GROUP, INC.
BYRE CALIFORNIA
GUY F. ATKINSON CORP. OF AMERICA
PIONEER MOTOR BEARING CO.

SAN JOSE

ANDERSON JACOBSON, INC.

SURVEY SENT TO:

CITY IN CALIFORNIA

COMPANY NAME

SAN LEANDRO
SAN MATEO
SANTA ANA
SANTA CLARA

BORCHERS BROTHERS
E-H INTERNATIONAL INC.
FMC ORDNANCE DIVISION
KAISEN AEROSPACE AND ELECTRIC
PERFECTION METAL PRODUCTS, INC.
REACTOR CONTROLS INC.
UNITED CENTRIFUGAL PUMPS INC.

SANTA CRUZ
SANTA FE SPRINGS
SANTA MONICA
SANTA ROSA
STANTON
SUNNYVALE

WORLDWIDE FILTER
ALUMAX MILL PRODUCTS
ACL-FILCO CORP.
ACCURATE TOOL & MFG. CO.
APPLIE MATERIALS INC.
BUTLER PRECISION BELTING, INC.
GRANGER ASSOCIATES
HONEYWELL, INC.
MEMOREX CORP.
ROLM CORP., WESTERN DIVISION

PLANTRONICS
ANGELES WELDING & MFG
SHAMBAN COMP.
ARGONAUT CONSTRUCTION INC.
PEMCO ENGINEERS, INC.
ADAC LABORATORIES
ARGOSYSTEMS, INC.
B R COMMUNICATIONS
BOSCHERT INC.
CALIFORNIA MICROWAVE INC.
CLEETWOOD ELECTRONICS, INC.

LITTON MELLONICS SYSTEMS
DEVELOPMENT

NATIONAL SEMICONDUCTOR COMP.
PRINTED CIRCUITS INTER INC.
R.O. ASSOCIATES INC.
WESTERN MICROWAVE INC.

TORRANCE

AIRSEARCH MAUFACTURING COMP.
DIVISION OF THE GARRETT CORP.

TUSTIN

BASIC FOUR INFORMATION SYSTEMS
ZELEX CORP.

VALENCIA
VAN NUYS

FOXBORO COMP.
ROBERTS TOOL CO., INC.
W.K. ENGREERING

WALNUT CREEK
WATSONVILLE

BROWN & CALDWELL, CONSULTING ENGR.
SPECTRA - MAT INC.

APPENDIX C
STATISTICAL RESULTS - LONG TERM CONTRACTING

TOPIC AREA: LONG TERM CONTRACTING

Question# Sample Mean Significantly Different?

	t-Test ' 80%	W-Test ' 90%
1	Y	N
2	Y	N
3	Y	Y
4	N	N
5	N	N
6	N	N
7	Y	Y
8	Y	Y
9	N	N
10	N	N
11	Y	Y
12	N	N

Y = Yes

N = No

QUESTION #1: Long term (two or more years) contracts allow better capital resource planning for material.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	36.4%	18.6%
Agree	36.4%	39.5%
No Opinion	4.5%	9.3%
Disagree	13.6%	20.9%
Strongly Disagree	9.1%	11.7%
TOTAL	100.0%	100.0%

QUESTION #2: Long term contracts allow better utilization of man-power that could result in learning curve and related productivity savings.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	50.0%	18.6%
Agree	31.8%	41.9%
No Opinion	4.6%	9.3%
Disagree	4.6%	18.6%
Strongly Disagree	9.0%	11.6%
TOTAL	100.0%	100.0%

QUESTION #3: We prefer long term (two or more years) contracts over single year contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	45.5%	19.5%
Agree	27.3%	24.4%
No Opinion	4.5%	12.2%
Disagree	9.1%	24.4%
Strongly Disagree	13.6%	19.5%
TOTAL	100.0%	100.0%

QUESTION # 4: With long term (two or more years) contracts we are willing to buy larger quantities of raw materials. (stockpile).

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	22.7%	20.5%
Agree	36.4%	28.2%
No Opinion	4.5%	12.8%
Disagree	27.3%	25.6%
Strongly Disagree	9.1%	12.9%
TOTAL	100.0%	100.0%

QUESTION #5: We prefer fixed price long term (two or more years) contracts to single year cost reimbursable type contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	23.8%	12.2%
Agree	33.3%	26.8%
No Opinion	4.8%	21.9%
Disagree	23.8%	17.1%
Strongly Disagree	14.3%	22.0%
TOTAL	100.0%	100.0%

QUESTION #6: We could get better prices from our suppliers with long term (two or more years) contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	31.6%	26.9%
Agree	26.3%	34.1%
No Opinion	0.0%	12.2%
Disagree	26.3%	14.6%
Strongly Disagree	15.8%	12.2%
TOTAL	100.0%	100.0%

QUESTION #7: For those products with rapidly changing technology we prefer short-term (one year or less) contracts to take advantage of emerging technology.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	9.1%	23.3%
Agree	36.4%	37.2%
No Opinion	13.6%	14.0%
Disagree	36.4%	20.9%
Strongly Disagree	4.5%	4.6%
TOTAL	100.0%	100.0%

QUESTION #8: In a rapidly changing technological industry we prefer single year contracts to take advantage of increased competition and lower prices.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	15.0%	27.9%
Agree	10.0%	30.3%
No Opinion	25.0%	16.2%
Disagree	35.0%	18.6%
Strongly Disagree	15.0%	7.0%
TOTAL	100.0%	100.0%

QUESTION #9: Fixed price long term (two or more years) contracts with economic escalator is preferable by suppliers to single year cost plus contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	11.1%	11.9%
Agree	50.0%	40.5%
No Opinion	0.0%	9.5%
Disagree	27.8%	26.2%
Strongly Disagree	11.1%	11.9%
TOTAL	100.0%	100.0%

QUESTION #10: The lack of long term (two or more years) funding for contracts on a potentially long term (two or more years) delivery product does not allow us to pass on cost savings that would be associated with long term (two or more years) funding.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	15.8%	10.8%
Agree	47.4%	32.5%
No Opinion	21.0%	32.5%
Disagree	5.3%	18.8%
Strongly Disagree	10.5%	5.4%
TOTAL	100.0%	100.0%

QUESTION #11: Whether funding is single year or long term (two or more years) makes relatively little difference on the total pass through savings on contracts, because the effect of our firm meeting delivery schedules will as a matter of course, be funded in the final analysis.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	5.3%	18.0%
Agree	10.5%	28.2%
No Opinion	36.8%	25.6%
Disagree	31.6%	23.1%
Strongly Disagree	15.8%	5.1%
TOTAL	100.0%	100.0%

QUESTION #12: We receive quantity discounts for buying bulk quantities.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	42.8%	30.2%
Agree	47.6%	44.2%
No Opinion	0.0%	4.6%
Disagree	4.8%	16.3%
Strongly Disagree	4.8%	4.7%
TOTAL	100.0%	100.0%

APPENDIX D
STATISTICAL RESULTS - SUBCONTRACTING
TOPIC AREA: SUBCONTRACTING

Question #	Sample Mean Significantly Different?	
	t-Test ' 80%	W-Test ' 90%
1	Y	Y
2	Y	Y
3	N	N
4	N	N
5	N	N
6	Y	Y
7	N	Y
8	N	N
Y = Yes		
N = No		

QUESTION #1: We actively seek small business firms as primary subcontractors.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	30.4%	13.6%
Agree	52.2%	34.1%
No Opinion	8.7%	15.9%
Disagree	4.4%	34.1%
Strongly Disagree	4.3%	2.3%
TOTAL	100.0%	100.0%

QUESTION #2: We seek higher priced small business designated companies mainly on cost reimburseable verses fixed price contracts.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	0.0%	0.0%
Agree	4.8%	12.8%
No Opinion	14.3%	43.6%
Disagree	38.1%	30.8%
Strongly Disagree	42.8%	12.8%
TOTAL	100.0%	100.0%

QUESTION #3: Fewer than 20% of our subcontractors/suppliers are designated by the SBA as a small business.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	11.1%	8.6%
Agree	22.2%	17.1%
No Opinion	0.0%	25.7%
Disagree	38.9%	31.5%
Strongly Disagree	27.8%	17.1%
TOTAL	100.0%	100.0%

QUESTION #4: In our dealings with small businesses, they have proven to be dependable subcontractors/suppliers.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	26.1%	15.9%
Agree	60.9%	50.0%
No Opinion	0.0%	15.9%
Disagree	8.7%	13.6%
Strongly Disagree	4.3%	4.6%
TOTAL	100.0%	100.0%

QUESTION #5: The SBA has provided additional help to us in establishing new business relationships with other contractors/suppliers.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	10.5%
Agree	28.6%	5.3%
No Opinion	19.0%	28.9%
Disagree	38.1%	39.5%
Strongly Disagree	9.5%	15.8%
TOTAL	100.0%	100.0%

QUESTION #6: SBA companies always identify themselves as SBA companies in solicitations and actively seek contracts from us.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	7.5%
Agree	42.8%	2.5%
No Opinion	23.8%	32.5%
Disagree	23.8%	45.0%
Strongly Disagree	4.8%	12.5%
TOTAL	100.0%	100.0%

QUESTION #7: In procurements where research and development may be required prior to actual production, the individual contractor finances most of the development cost with his own funds.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	9.1%	10.0%
Agree	27.3%	35.0%
No Opinion	13.6%	30.0%
Disagree	36.4%	20.0%
Strongly Disagree	13.6%	5.0%
TOTAL	100.0%	100.0%

QUESTION #8: Frequent changes in specifications is a major problem during the life of a contract.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	30.4%	25.6%
Agree	39.1%	32.5%
No Opinion	8.7%	18.6%
Disagree	17.4%	14.0%
Strongly Disagree	4.4%	9.3%
TOTAL	100.0%	100.0%

APPENDIX E
 STATISTICAL RESULTS - SOURCE DEVELOPMENT
 TOPIC AREA: SOURCE DEVELOPMENT

Question # Sample Mean Significantly Different?

	t-Test ' 80%	W-Test ' 90%
1	N	N
2	Y	N
3	N	N
4	N	Y
5	N	N
6	N	Y
7	N	Y
8	N	N
9	N	N
10	N	N
11	N	N

Y = Yes
 N = No

QUESTION #1: We have a designated procedure for new source selection.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	25.0%	11.1%
Agree	45.0%	46.6%
No Opinion	10.0%	17.8%
Disagree	10.0%	13.4%
Strongly Disagree	10.0%	11.1%
TOTAL	100.0%	100.0%

QUESTION #2: We request Dun & Bradstreet or similar external financial reports for new sources in order to evaluate their past, historical performance prior to negotiating contracts with them.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	23.8%	20.0%
Agree	52.4%	40.0%
No Opinion	9.5%	4.4%
Disagree	4.8%	26.7%
Strongly Disagree	9.5%	8.9%
TOTAL	100.0%	100.0%

QUESTION #3: We actively seek and review all potentially new subcontractors on a periodic basis (one year or less).

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	20.0%	21.9%
Agree	25.0%	36.6%
No Opinion	25.0%	17.1%
Disagree	25.0%	24.4%
Strongly Disagree	5.0%	0.0%
TOTAL	100.0%	100.0%

QUESTION #4: We sometimes pay greater prices for supplies or services in order to develop new sources.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	9.1%	13.3%
Agree	68.3%	51.1%
No Opinion	4.5%	6.7%
Disagree	13.6%	24.4%
Strongly Disagree	4.5%	4.5%
TOTAL	100.0%	100.0%

QUESTION #5: The primary reason for new source development is lower purchase prices.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	14.9%
Agree	38.1%	34.0%
No Opinion	9.5%	10.6%
Disagree	47.6%	31.9%
Strongly Disagree	0.0%	8.6%
TOTAL	100.0%	100.0%

QUESTION #6: One major reason for new source development is to ensure several, reliable subcontractors are available to foster improved product quality and not necessarily price reduction.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	22.7%	23.9%
Agree	54.6%	43.5%
No Opinion	9.1%	6.5%
Disagree	4.5%	21.7%
Strongly Disagree	9.1%	4.4%
TOTAL	100.0%	100.0%

QUESTION #7: Most of our sub-component subcontractors are quality sensitive rather than price.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	14.3%	9.1%
Agree	38.1%	27.3%
No Opinion	23.8%	31.8%
Disagree	14.3%	29.5%
Strongly Disagree	9.5%	2.3%
TOTAL	100.0%	100.0%

QUESTION #8: We evaluate new source's management as a major consideration prior to awarding a long-term contract to them.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.5%	29.4%
Agree	54.6%	26.8%
No Opinion	9.1%	14.6%
Disagree	22.7%	26.8%
Strongly Disagree	9.1%	2.4%
TOTAL	100.0%	100.0%

QUESTION #9: Most of my subcontractors are sole source (have not been competed within the last two years).

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	5.1%
Agree	14.3%	15.4%
No Opinion	0.0%	15.4%
Disagree	61.9%	48.7%
Strongly Disagree	19.0%	15.4%
TOTAL	100.0%	100.0%

QUESTION #10: Less than 33% of my subcontractors are sole source.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	5.5%	25.6%
Agree	61.1%	30.8%
No Opinion	16.7%	7.7%
Disagree	16.7%	25.6%
Strongly Disagree	0.0%	10.3%
TOTAL	100.0%	100.0%

QUESTION #11: Competition between suppliers is an important criteria to establish fair and reasonable prices.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	50.0%	38.3%
Agree	35.0%	44.7%
No Opinion	5.0%	4.2%
Disagree	5.0%	6.4%
Strongly Disagree	5.0%	6.4%
TOTAL	100.0%	100.0%

APPENDIX F
STATISTICAL RESULTS - CONTRACT ADMINISTRATION

TOPIC AREA: CONTRACT ADMINISTRATION

Question # Sample Mean Significantly Different?

	t-Test ' 80%	W-Test ' 90%
1	Y	Y
2	Y	Y
3	Y	Y
4	N	N
5	N	N
6	N	N
7	N	N
8	N	N
9	N	N
10	N	N

Y = Yes
N = No

QUESTION #1: Does your firm tend to downgrade contract administration and consider it an unimportant part of contract performance?

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.3%	11.9%
Agree	0.0%	21.4%
No Opinion	4.3%	23.8%
Disagree	52.2%	28.6%
Strongly Disagree	39.2%	14.3%
TOTAL	100.0%	100.0%

QUESTION #2: My method of procurement should not be under review by my potential customers either as a subcontractor or as a supplier to a prime contractor.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.3%	21.4%
Agree	17.4%	31.0%
No Opinion	8.7%	9.5%
Disagree	47.8%	28.6%
Strongly Disagree	21.8%	9.5%
TOTAL	100.0%	100.0%

QUESTION #3: Preparation of proposals and the negotiation of contracts is a responsibility of the marketing division.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	13.0%	20.0%
Agree	17.4%	37.5%
No Opinion	4.4%	7.5%
Disagree	34.8%	20.0%
Strongly Disagree	30.4%	15.0%
TOTAL	100.0%	100.0%

QUESTION #4: The responsibility of contract administration begins only after contract award.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.5%	12.2%
Agree	18.2%	12.2%
No Opinion	0.0%	14.6%
Disagree	36.4%	43.9%
Strongly Disagree	40.9%	17.1%
TOTAL	100.0%	100.0%

QUESTION #5: My organization uses on-site audit/monitor teams at our subcontractor's facilities to administer contracts that are over \$_____.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	10.5%	3.1%
Agree	31.6%	3.1%
No Opinion	26.3%	56.3%
Disagree	15.8%	31.3%
Strongly Disagree	15.8%	6.2%
TOTAL	100.0%	100.0%

QUESTION #6: Contract Administration should not be separated from the purchasing activity that awarded the contract.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	28.6%	27.9%
Agree	23.8%	39.5%
No Opinion	4.8%	18.6%
Disagree	28.6%	11.6%
Strongly Disagree	14.2%	2.4%
TOTAL	100.0%	100.0%

QUESTION #7: Contract administration should be separated from the purchasing agent (buyer) that awarded the contract.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.8%	4.6%
Agree	23.8%	15.9%
No Opinion	9.6%	13.6%
Disagree	47.6%	50.0%
Strongly Disagree	14.2%	15.9%
TOTAL	100.0%	100.0%

QUESTION #8. Our contracts organization is at a comparable organizational level with other major departments of the company.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	21.7%	14.6%
Agree	56.5%	29.3%
No Opinion	0.0%	26.8%
Disagree	13.1%	24.4%
Strongly Disagree	8.7%	4.9%
TOTAL	100.0%	100.0%

QUESTION #9: The senior management level of our firm probably does not fully realize the contributions the Contracts department makes to the corporation as a whole.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	4.5%	11.9%
Agree	27.3%	26.2%
No Opinion	4.5%	23.8%
Disagree	45.5%	26.2%
Strongly Disagree	18.2%	11.9%
TOTAL	100.0%	100.0%

QUESTION #10: In the private commercial world, industry requirements for a given contract are relatively stable throughout the life of that contract.

	Government Oriented Businesses	Commercial Oriented Businesses
Strongly Agree	5.0%	11.4%
Agree	35.0%	47.7%
No Opinion	20.0%	18.2%
Disagree	30.0%	18.2%
Strongly Disagree	10.0%	4.5%
TOTAL	100.0%	100.0%

APPENDIX G CONTRACTOR EVALUATION CRITERIA

	GOVERNMENT-ORIENTED BUSINESSES				COMMERCIAL-ORIENTED BUSINESSES			
QUESTION (SEE BELOW)	ANNUAL SALES	ANNUAL SALES	ANNUAL SALES	TOTALS	ANNUAL SALES	ANNUAL SALES	ANNUAL SALES	TOTALS
	LESS THAN \$10 MILLION	\$10 TO \$50 MILLION	GREATER THAN \$50 MILLION		LESS THAN \$10 MILLION	\$10 TO \$50 MILLION	GREATER THAN \$50 MILLION	
A	2.6%	1.7%	5.2%	9.6%	2.0%	1.5%	2.9%	6.3%
B	1.7%	4.3%	4.3%	10.4%	5.9%	2.0%	3.9%	11.7%
C	0.0%	0.0%	4.3%	4.3%	1.0%	0.5%	2.0%	3.4%
D	1.7%	4.3%	6.1%	12.2%	2.4%	1.5%	3.4%	7.3%
E	0.9%	2.6%	1.7%	5.2%	2.4%	0.5%	2.0%	4.9%
F	0.9%	4.3%	7.0%	12.2%	6.3%	2.9%	5.9%	15.1%
G	0.9%	0.9%	0.9%	2.6%	4.4%	2.4%	0.0%	6.8%
H	0.9%	0.9%	0.9%	2.6%	1.0%	1.5%	0.5%	2.9%
I	3.5%	3.5%	7.8%	14.8%	5.4%	3.9%	5.9%	15.1%
J	3.5%	1.7%	9.6%	14.8%	6.3%	3.9%	6.8%	17.1%
K	0.0%	0.9%	4.3%	5.2%	1.0%	0.5%	1.0%	2.4%
L	0.9%	0.9%	4.3%	6.1%	2.9%	1.0%	1.5%	5.4%
M	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	1.0%	1.5%
TOTAL				100.0%	TOTAL 100.0%			

- A. CORPORATE COMMITMENT; STAYING POWER. (LONG TERM VIABILITY).
- B. CREDIBILITY. (FIRM'S REPUTATION).
- C. CORPORATE STRENGTH AND WILLINGNESS TO ABSORB RISK.
- D. A PARTICULAR TECHNOLOGY.
- E. A PARTICULAR DESIGN.
- F. A LOW PRICE.
- G. A FAMILIAR FACE; CONTINUATION OF AN OLD OR ESTABLISHED BUSINESS RELATIONSHIP.
- H. SPECIAL PRODUCTION FACILITIES.
- I. HAS A KNOWN SYSTEM PERFORMANCE FOR HIGHER QUALITY.
- J. ON TIME DELIVERY.
- K. MANAGEMENT STRENGTH.
- L. FINANCIAL STRENGTH (CAN FINANCE PROJECT THROUGH THEIR OWN SOURCES).
- M. OTHER

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